R842-05

ERIC REPORT RESUME

D 010 272   2-28-67   24   (REV)
A NORMATIVE STUDY OF CHILDREN'S HOUSE-TREE-PERSON DRAWINGS.
RAPPAPORT, SHELDON R.
HOK25604 JEFFERSON MEDICAL COLL. OF PHILADELPHIA, PA.
CRP-2854
BR-5-0438
-SEP-66   OEC-5-10-137
EDRS PRICE   MF-$0.27   HC-$5.68   142P.

*ELEMENTARY SCHOOL STUDENTS, *CHILD PSYCHOLOGY, *CHILD DEVELOPMENT,
*PERSONALITY DEVELOPMENT, SCORING, COMPARATIVE TESTING,
TEST INTERPRETATION, PHILADELPHIA, PENNSYLVANIA,
HOUSE TREE PERSON TEST

THIS STUDY WAS THE FIRST PHASE OF A THREE-PART PROJECT WHOSE GOAL IS TO ESTABLISH VALID CRITERIA FOR IDENTIFYING THE HOUSE-TREE-PERSON (H-T-P) DRAWINGS OF NORMAL CHILDREN THROUGHOUT THE ELEMENTARY SCHOOL YEARS. THE SPECIFIC OBJECTIVES OF THIS STUDY WERE (1) TO IDENTIFY WHICH ITEMS OF THE H-T-P TEST CHARACTERIZE NORMAL DEVELOPMENT THROUGH GRADES 2, 3, AND 5 AND (2) TO SET UP A SHORT, WORKABLE SCORING SYSTEM BY WHICH LARGE GROUPS OF ELEMENTARY SCHOOL CHILDREN COULD BE SCREENED FOR NORMAL DEVELOPMENT. THE H-T-P TEST WAS SCORED FOR THE PRESENCE OR ABSENCE OF 821 QUALITATIVE ITEMS AND FOR 12 QUANTITATIVE MEASUREMENTS. BY OMITTING THOSE ITEMS WHICH WERE AMBIGUOUS, DIFFICULT TO UNDERSTAND OR SCORE, OR IRRELEVANT TO DEVELOPMENT, THE INVESTIGATOR SELECTED 57 ITEMS FOR THE SCORING SYSTEM. IT WAS FELT THAT THE TENTATIVE SCORING SYSTEM DEVISED FOR THIS STUDY COULD BE USED ONLY FOR RESEARCH PURPOSES. (GD)

ED010272

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FINAL REPORT
Project No. 5-0438-2-12-1
Contract No. OE-5-10-137 (CRP · 2864)

A NORMATIVE STUDY OF CHILDREN'S HOUSE-TREE-PERSON DRAWINGS

September 1966

U.S. DEPARTMENT OF
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Sheldon R. Rappaport

September 1966

The research reported herein was performed pursuant to a contract with the Office of Education, U.S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions do not, therefore, necessarily represent official Office of Education position or policy.

The Jefferson Medical College of Philadelphia
Philadelphia, Pennsylvania

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ACKNOWLEDGEMENTS

This project was made possible by the splendid cooperation of the following school psychologists and suburban-Philadelphia school districts: Mrs. Mildred P. Brain, Mrs. Edith Edelman, Miss Cecelia M. Gould, Mr. Roy Grove, and Miss Ruth Trevarrow; Avon Area, Brandywine Area, Cheltenham, Chichester, Darby, Downingtown, Kennett Square, Lansdale, Marple-Newtown, Norristown, Oxford Area, Penn-Delco, Swarthmore, Upland, Upper Darby, West Chester, West Goshen, and Willistown.

Of inestimable value to the project was Mrs. Carol Y. Wearne, formerly Research Technician II at Eastern Pennsylvania Psychiatric Institute.

For the statistical analysis of the data gratitude is expressed to Aloysius J. Polaneczky, formerly Senior Methods Analyst at the Franklin Institute Computing Center, and especially to Dr. William B. Schrader, Director of Statistical Analysis at the Educational Testing Service.

Many hours of painstaking work went into making up this final report. To all of Pathway School's secretaries and members of its Resource Center who did the compiling and printing go deepest gratitude.

Appreciation is also expressed to Dr. Robert C. Prall, Director of the Children's Unit at the Eastern Pennsylvania Psychiatric Institute and Professor of Child Psychiatry at the Jefferson Medical College for making the project possible administratively.

INTRODUCTION

The House-Tree-Person Test has been used with children for many years as a clinical diagnostic tool without knowing which aspects of children's H-T-P drawings are a function of age and normal development. In the absence of normative criteria, the interpretation of signs thought to be indicative either of normal development or of various types of deviation or pathology remains intuitive. The establishment of norms for the H-T-P is worthwhile not only for use by the clinician but also because there are intrinsic factors within it which make it ideally suited for screening large groups of elementary-school children: (1) it has inherently high motivational value -- most children like to draw pictures; (2) it can easily and economically be administered as a group test by a teacher in 15 to 20 minutes; (3) accurate administration requires no special training; (4) empirical studies suggest that it offers a rich source of information concerning many facets of personal adjustment.

A review of the literature from 1948 to 1962 revealed 410 papers concerned with children's drawings. However, only 20 of those dealt with attempts to establish norms for any aspect of the H-T-P Test. The most relevant paper was by Bieliauskas and Moens (3). It correlated H-T-P IQs obtained by the Buck (6) scoring system, standardized only on adults, with Kuhlmann-Anderson (17) IQs obtained on 23 second-grade and 40 fifth-grade pupils. The conclusion was that the Buck scoring system needed considerable modification to be used for individual prediction. Studies by Aupecle (2), Bieliauskas and Pennington (4), Duffy (11), Dunn (10), Machover (19), Markhan (20), Nel and Esterhurjsen (22), and others indicate the presence of developmental characteristics in the one or more aspects of children's H-T-Ps which were investigated. In other studies, the drawing of a person was found not to correlate significantly with primary abilities, but rather to be related to personality (1) or to be an adequate measure of intelligence only in children with subnormal or normal intelligence and becoming more meaningful as a projective device in children of higher IQs (21). Still other studies have investigated such aspects of children's H-T-Ps as what constitutes essential details in five-and six-year-olds' drawings of a house (5), vertical (16) and horizontal (15) placement of drawings, the sex of the first human figure drawn by girls and boys (14,24,8), and the effect of age on space constriction (18,23). However, no study attempted to evaluate systematically the relationship between commonly interpreted H-T-P characteristics and their statistical relationship with normal development.[1] Therefore, such a study was deemed necessary, and was undertaken in this project.

This particular study was conceptualized as the first phase of a three-part project whose goal would be to establish valid criteria for identifying the H-T-P drawings of normal children throughout the elementary-school years.

The objectives of this specific study were: (1) to identify which items of the H-T-P characterize normal development through grades two, three, and five, and (2) to set up a short, workable scoring system by which large groups of elementary-school children could be screened for normal development, so that those not meeting the criteria for normal development could be referred for more definitive evaluation.

It was thought that if this study proved to merit it, the second and third phases of the research project would be (1) to extend and enlarge the normative population and (2) to investigate the differences between the normative group and nosological group.

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[1] After this study was initiated, Harris (13) published a comprehensive review of the major aspects of figure drawings and a revision and extension of Goodenough's Draw-a-Man-Test.

METHODS

To investigate which aspects of the H-T-P are a function of normal development, 821 qualitative items culled from Buck's (7) and Goodenough's (12) scoring systems and from elsewhere in the literature were combined to form a scoring survey (see Appendix A). Included in those 821 items were signs of deviation or pathology cited in the literature (see Appendix F). The scoring survey also listed 12 measures of angulation of drawings. For the house, tree, and each of the two persons drawn were measured the "alpha lean" and the "beta lean". Alpha lean represents the deviation of the drawing's vertical axis (as determined by a perpendicular from its baseline) from the vertical axis of the paper. Beta lean represents the degree to which a drawing is curved in on itself. It is measured by the angle of deviation between its vertical axis and a perpendicular through its apex. For the drawings of the two persons a measure was also obtained of the angle of deviation of the left and right arms from the vertical axis. Details of these measures are found in Appendix B.

After the scoring survey was compiled, the cooperation of the following 18 suburban-Philadelphia school districts was enlisted: Avon Area, Brandywine Area, Cheltenham, Chichester, Darby, Downingtown, Kennett Square, Lansdale, Marple-Newtown, Norristown, Oxford Area, Penn-Delco, Swarthmore, Upland, Upper Darby, West Chester, West Goshen, and Willistown.

Before testing began, the following decisions were made concerning the major factors of the study:

(1) Sex - equal distribution of boys and girls.
(2) Grade Placement - limited to second, third, and fifth grades to afford a spread of one, two, and three years between the groups. No child could have repeated a grade or not be of the appropriate age for his grade placement.
(3) Age Range - for second grade, age 7 years and 6 months ±3 months; for third grade, age 8 years and 6 months ±3 months; for fifth grade, age 10 years and 6 months ±3 months. Those ages were determined at the time of obtaining the child's IQ, and the H-T-P was given within a month of that date.
(4) IQ Test - the Kuhlmann-Anderson Intelligence Tests, 6th Edition, were selected as the most widely used in the school districts of this area and as those empirically found by the school psychologists to have adequate reliability when compared with individually administered intelligence tests.

(5) Drawings - the H-T-P used in the study consisted of a house, tree, person and a second person of the opposite sex to that of the person drawn first. Those drawings were made in a booklet measuring 7" x 8½" per page (the same size used by Buck (62). The use of four drawings rather than three has been found helpful clinically to the writer since 1948.

(6) IQ Range - the two levels of intelligence used were average, IQs from 100 to 109; and superior, IQs from 120 to 129.[2]

(7) Physical defects - blindness, deafness, cerebral palsy, brain damage, and any other similar physical handicap excluded a child from this study.

(8) Emotional problems - any child referred for any type of psychotherapy or counseling, or having a severe behavioral problem known to the teacher or principal, or not interacting appropriately with the group, or not participating in classroom activity, or referred for psychological examination was excluded from this study.

(9) Race - to rule out untested variables connected with possible racial differences, subjects were confined to the Caucasian race for this study.

(10) Handedness - the child's preferred hand was recorded when the H-T-P was given. Any child who had no preferred hand or whose preferred hand was unknow was excluded from this study.

Between March of 1961 and February of 1963, 1,066 Kuhlmann-Anderson Intelligence Tests, appropriate to grade level, were administered by personnel of the individual schools. (The instructions used are found in Appendix C.) Only 513 of those children met the requirements of this study for age, sex, grade, and IQ. To them the H-T-P was administered within the prescribed one-month period. From that group some had to be dropped because they were "referred," because they were in the dull-normal group which had to be eliminated, and because of the criteria for handedness. Thus, H-T-Ps on

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[2] A third level, dull-normal, IQs from 80 to 89, was attempted. However, too few children in that IQ range who also met the grade and age requirements could be found.

360 children finally were analyzed.

Each H-T-P was scored jointly by Mrs. Wearne, the research assistant to the project, and the writer. Criteria for the scoring of each item were thereby established and annotated. To insure reliability of the scoring, after six months each H-T-P was scored again. To insure reliability of the scoring criteria, a random selection of 10 H-T-Ps was rescored without reference to the annotated criteria. No major discrepancies were found.

The four independent variables statistically studied for their effect on the characteristics of the H-T-Ps were sex (male or female), handedness (right or left), IQ (average or superior), and grade (2, 3, or 5). The dependent variable was a presence or absence score on each of the H-T-P scoring survey's 821 qualitative items. The relationship of the dependent variable to the independent variables was studied through regression analysis.

To permit the independent variables to be expressed quantitatively, the following values were assigned to them:

Sex:	Female = +1, Male = -1
Handedness:	Right = +1, Left = -1
IQ:	Superior = +1, Average = -1
Grade:	2, 3, 5 = -1, 0, +2 respectively

The dependent variable was not normally distributed, as is required in regression analysis, because it was not a continuous distribution (present was represented by +1 and absent by zero). Davies (9) has tabulated the effect of non-normality on Student's t (which is used in regression analysis) and has found that a marked deviation from normality does not appreciably affect a test of significance. A distribution whose only values are zero and +1 has a coefficient of kurtosis of -2. With 5 degrees of freedom, Student's t test would falsely ascribe a significance level of 5% when the true level was 6.16%, and with 10 degrees of freedom, 5% when the true level was 5.60%. With the H-T-P data's 359 degrees of freedom, the resultant discrepancy whould be negligible.

In the statistical analysis of the qualitative data, the model to be solved can be expressed as:

$$Y = A + B1 \cdot S + B2 \cdot H + B3 \cdot I + B4 \cdot G + B5 \cdot G^2$$

where $Y = 0$ or 1 (meaning absent or present)

S - Sex

H = Handedness
G = Grade
G^2 = Grade squared
I = IQ
A = "Average" fraction of children who showed a particular characteristic on the H-T-P scoring survey ("average" being equivalent to "halfway" between male and female or between right and left handed, etc.). This is the intercept of the linear model.
B = Coefficients associated with the various terms.

In the statistical analysis of the quantitative data, the model to be solved can be expressed as:

$$Y = A + B1X1 + B2X2 + B3X3 + B4X4 + B5X5$$

where Y = the dependent variable under study

X1 = IQ
X2 = Sex
X3 = Handedness
X4 = Grade
X5 = Grade squared

For the statistical analysis of both the qualitative and quantitative data, a Student's t of 2.58, significant at the one percent level, was used.

RESULTS

The distribution of the 360 children whose H-T-Ps were statistically analyzed is shown in Table 1.

TABLE 1

Distribution of 360 Children Whose H-T-Ps Were Studied

		Boys		**Total**	Total **Hand.**	**Total IQ**
IQ = 100 to 109 **Grade:**	2	3	5			
Left Handed	3	4	1	8		
Right Handed	20	33	26	79		
IQ = 120 to 129						
Left Handed	2	3	4	9		
Right Handed	25	24	27	76		
Total Boys	50	64	58	172		
					Left 39	**Average** 191
					Right 321	**Superior** 169
		Girls				
IQ = 100 to 109 **Grade:**	2	3	5			
Left Handed	5	4	2	11		
Right Handed	18	27	26	71		
IQ = 120 to 129						
Left Handed	4	2	5	11		
Right Handed	34	26	35	95		
Total Girls	61	59	68	188		
Total Grade	111	123	126	360		

The number of qualitative characteristics of the children's H-T-Ps studied which were significant is indicated in Tables 2 and 3. In the latter, the number of items showing both a t significant at the one percent level and also a response between 11 and 89 percent is indicated. (Those items having a response of less than 11 percent or more than 89 percent generally would not be sufficiently discriminating to be included in the short scoring system which is a goal of this project.)

TABLE 2

Number of Qualitative Items in Scoring Survey Showing t Significant at One Percent Level of Confidence for House, Tree, and Person Drawings

	Total N		Significant N			Percent of Items Significant
H*	135		31			23
T	108		23			21
P			92			
M Only	476		20	143		30
F Only		578	31		191	33
P_G			36			
GM Only	102		2	48		47
GF Only			10			
Total	821		245			

* H = house; T = tree; P = items significant for both male and female drawings; M Only = items significant only for male drawing; F Only = items significant only for female drawing; P_G = items of Goodenough scoring systems significant for both male and female drawings; GM Only = items of Goodenough scoring system significant only for male drawing; GF Only = items of Goodenough scoring system significant only for female drawing.

TABLE 3

Number of Qualitative Items in Scoring Survey showing t Significant at One Percent Level for All Variables*

	Total N Significant	Significant N >10% & <90%
IQ	30	19
H	14	2
S	68	50
G	43	30
G^2	10	6
IQ + H	0	0
IQ + S	4	3
IQ + G	11	11
IQ + G^2	0	0
IQ + G + G^2	5	5
H + S	1	0
H + G	1	0
H + G^2	0	0
S + G	40	36
S + G^2	1	1
S + G + G^2	1	1
G + G^2	6	4
IQ + S + G	8	6
IQ + S + G^2	1	1
IQ + S + G + G^2	1	1
Total	245	176

* Variables are IQ, Handedness, Sex, Grade, and Grade Square in any combination.

To the above information should be added the fact that 50 of the 576 items not having a significant t value did have a zero response or did not apply to the drawing of one sex or the other. For the house, 8 items had zero response (items numbered 104/1, 116-2, 120/2, 122, 129/4, 131/2, 134-7/1);[3] for the tree, 6 items had zero response (204/1, 206/7/C, 211/2/A, 213/1, 217-8/1, 217-16); for the male drawing, 17 items either had zero response or did not apply to the male drawing (300/1, 300/1/B, 304/4,* 304/5,* 305/7,* 307/10,* 307/11,

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[3] For more information about the individual items surveyed see Appendix A.

[4] *Means that the item did not apply to the drawing of that sex.

313/1, 313/2, 330/3, 331/3, 333/2, 335,* 339,* 361, 363/1,* 368/D); for the female drawing, 19 items either had zero response or did not apply (300/1/B, 300/2/D,* *300/3/B, 302/3* *305/6,* 307/1,* 307/5,* 307/6, 307/8,* 307/9,* 307/11, 316/7,* 316/8, 317-4,* 317-6, 317-7, 326/2/C2, 333/2, 368/D). No Goodenough items had a zero response.

The t values for all 821 qualitative items evaluated (except those with zero response) are found in Appendix D. Of the 245 items with significant ts, those 176 which showed both a significant t and a response between 11 and 89 percent are indicated in Appendix E.

Using the number of significant ts as the criterion, the rank of the variables most closely associated with H-T-P performance is as follows: sex alone related significantly to 50 items; both sex and grade were significantly related to another 36 items; and grade alone was significantly related to an additional 30 items. Because each child in this study had to be of grade-appropriate age, grade provides the best index of development.

Of those items showing a significant relationship to grade alone, the 3 related to the house and the 7 related to the tree were discarded from consideration for the scoring system because of redundancy, ambiguity, or difficulty of scoring. Similarly, in considering items related both to sex and grade for inclusion in the short scoring system, items deemed most suitable were those associated with the person.

Inspection of those items also revealed that the items culled from those significantly related either to grade or grade and sex promised to be equally of value when applied only to a drawing of a man instead of to drawings of both sexes. Those items selected for the short scoring system are listed in Table 4.

TABLE 4

Items Significantly Related to Grade Selected for Inclusion in the Short Scoring System

	Item #*	Item Description	Percent R	t**
1.	306/1^{G}	No neck indicated.	20.28	-3.30 S -4.30 G
2.	306/3^{N}	The neck is two-dimensional.	76.94	4.56 G
3.	307/3^{G}	The trunk is two-dimensional but not of conventional shape (i.e., it is a circle or triangle or square).	38.06	-4.94 S -3.24 G
4.	307/4^{G}	The trunk is two-dimensional and of conventional shape.	58.89	4.46 S 4.64 G
5.	323/1/A^{B}	The face is wider than the trunk.	44.44	5.71 S -5.02 G
6.	323/2/A^{N}	The trunk is at least 3 times longer than the head, or the head is longer than the trunk.	20.00	-2.89 G
7.	323/2/C^{N}	The trunk is between 1½ and 2 times longer than the head.	26.39	3.07 G
8.	323/3/A^{N}	The arms are at least 2 times longer than the trunk, or the trunk is longer than the arms.	38.61	-2.82 G
9.	323/3/C^{N}	The arms are equal to or longer than the trunk, but less than 1½ times longer.	54.17	2.46 G

* B indicates those items which would favor boys; G, those which would favor girls; N, neutral items not favoring either.

** G means that the t value cited was significantly related to grade; G + S, to grade and sex. For sex, - means that boys did it more frequently than girls.

	Item #*	Item Description	Percent R	t**
10.	324/1^{G}	The arms are attached to the trunk segmentally, as if drawn separately and then glued on; or the arms are one-dimensional.	38.33	-3.97 S -3.93 G
11.	324/4^{G}	The arms are properly attached to the trunk; the shoulder line continues into the arm line so that the arm is an extension of the shoulder.	52.22	3.98 S 4.16 G
12.	320/1^{N}	One or both forearms is wider than the upper arm.	32.50	-3.80 G
13.	326/1/A^{N}	In full face, one or both arms are extended at an angle of 90 degrees or more from the side of the trunk.	19.72	-5.01 G
14.	323/4/D^{N}	The legs are longer than the trunk, but less than twice as long.	69.44	3.62 G
15.	B/5/B^{G}	The legs are attached anywhere to the trunk and the arms are attached to the trunk at the correct places.	63.61	3.96 S 2.81 G
16.	368/A^{G}	Where the legs join the trunk there is an unnatural space separating them.	25.00	-5.57 S -2.69 G
17.	12/D^{G}	Feet and legs are two-dimensional; from the tip of the sole to the instep must be longer than the foot is tall, and the foot must be 1/10 to 1/3 the length of the leg.	48.61	2.60 S 3.83 G
18.	12/E^{N}	Both arms and legs are two-dimensional.	89.44	2.62 G

	Item #*	Item Description	Percent R	t**
19.	11/A^{N}	The elbow is indicated by a proper angle (not a curve), and the arm must hang from the shoulder at an angle of less than 90 degrees from the side of the body.	35.00	3.94 G
20.	B/6/A^{G}	A neck is indicated by any clear distinction between the head and trunk.	77.22	3.65 S 4.15 G
21.	318/1^{G}	Facial proportions show fewer than 3 of the following: eyes or mouth wider than tall, ears or nose taller than wide.	44.72	-4.47 S -3.76 G
22.	318/3^{N}	Facial proportions show the eyes and mouth wider than tall, and the ears and nose taller than wide.	13.06	2.63 G
23.	301/5^{N}	The nose is two-dimensional: 2 parallel lines joined at the bottom, or one vertical line curved at the bottom.	34.44	2.59 G
24.	16/A^{G}	A brow and/or lashes are present as details of the eye.	52.50	6.23 S 3.26 G
25.	305/2^{G}	Hair is shown in 2 places on the head.	51.11	6.33 S 2.93 G
26.	B/8/B^{G}	Hair is present on more than the circumference of the head; and it is better than a scribble, and the head outline cannot show through.	40.00	5.96 S 3.56 G
27.	316/2^{G}	Clothing is only suggested (by shading alone, or a trouser line, a belt, a hat, etc.).	23.61	-2.85 S -2.65 G

	Item #*	Item Description	Percent R	t**
28.	B/9/B^{G}	There are at least 2 articles of clothing which are not transparent.	58.33	4.08 S 4.00 G
29.	B/9/D^{N}	There are any 4 of the following: (1) hat, (2) shoes, (3) coat, (4) shirt, (5) collar, (6) tie, (7) belt or suspenders, (8) trousers.	29.44	2.62 G
30.	359^{N}	A buckle is shown.	27.78	3.87 G
31.	14/A^{N}	All lines are reasonably firm, meeting cleanly at their junctions without a marked tendency to cross, overlap, or leave gaps.	85.00	3.01 G

As can be seen from Table 4, only 15 of the 31 items do not favor either boys or girls. On the other hand, 15 items do favor girls, whereas only one item favors boys.

In viewing Table 4, it should also be noted that the 9th item has a t value which is slightly below the one percent level. It was included, nevertheless, because the t was significant for the female drawing. It should also be noted that item 13 also has a t value significant for IQ. That was not listed because in evaluating the quantitative items (see Table 8), arm position was consistently related to grade and not IQ. Moreover, on the female drawing, that item was also significant for grade only.

Those items most regarded in the literature as indicative of psychopathology, together with their frequency of response in this study, are found in Appendix F. Table 5 lists those items from Appendix F selected for inclusion in the short scoring system. None of those items are significantly related to any of this study's variables, and less than 5 percent of the children responded to each of them. Here again it will be noted that the items are associated with the drawing of a person and not of a house or tree. That is because only 51 of the 161 items pertained to the house or tree.

TABLE 5

Rare Response Items Included in the Short Scoring System

	Item #	Item Description	Percent R*
1.	329/3	Turning the paper 90 or 180 degrees before beginning to draw.	1.11 M, 0.56 F
2.	300/1	Wrong number of eyes.	0.00 M, 0.28 F
3.	305/5/A	Eyes drawn as closed.	1.11 M, 1.67 F
4.	330/4	Head shows confusion of front view and profile.	0.28 M, 0.28 F
5.	307/11	Two parallel lines from head to foot make a combined head and trunk region (fuss-kopf).	0.00 M, 0.00 F
6.	333/2	Internal organs are seen because of a transparancy.	0.00 M, 0.00 F
7.	313/2	Wrong number of legs.	0.00 M, 0.28 F
8.	368/D	One leg fully concealed in profile.	0.00 M, 0.00 F
9.	312-1 313/1	Refusal to complete drawing below waist, or legs are omitted.	0.28 M, 0.28 F 0.00 M, 0.56 F

* M: on the male drawing; F: on the female drawing.

	Item #	Item Description	Percent R*
10.	344	Head is clearly drawn, but the body is only vaguely sketched.	1.39 M, 0.83 F
11.	346	Figure's outside (outlining) lines are excessively heavy, but its inside lines are exceptionally light.	1.11 M, 0.56 F
12.	317-1	Elbow, knee, or knuckle joints, or nails are specifically designated.	3.33 M, 2.78 F
13.	315/2/B	Toes are specifically indicated on the feet.	1.67 M, 1.39 F
14.	348	Figure is made with lines which are obviously broken, approximating dashes.	2.22 M, 2.22 F
15.	336	The person is drawn as a clown, cartoon, or a silly-looking figure.	3.89 M, 5.00 F
16.	317-5	The person is smoking.	1.94 M, 0.28 F
17.	317-6	The person is using a gun.	0.28 M, 0.00 F
18.	317-7	The person has a shadow.	0.28 M, 0.00 F
19.	330/3	The person is shown from the rear view.	0.00 M, 0.56 F
20.	331/3	The person is seated.	0.00 M, 0.28 F

Other ideographic items deemed important to the scale were those on which over 90% of the children responded and which were not significantly related to any of the variables studied. These are found in Table 6, and again, pertain to the drawing of a person.

TABLE 6

Popular Items Included in the Short Scoring System

	Item #	Item Description	Percent R*
1.	B/1	A head is present; features alone are not credited.	95.00 M, 100.00 F
2.	B/7/A	Eyes are present; one or two in number.	99.72 M, 99.44 F
3.	B/7/C	A mouth is present.	98.06 M, 98.33 F
4.	B/7/B	A nose is present.	92.50 M, 93.33 F
5.	B/4/A	Any clear indication of a trunk.	99.17 M, 99.72 F
6.	B/4/B	The trunk is longer than wide.	90.00 M, 94.44 F

* M: on the male drawing; F: on the female drawing.

The means and standard deviations of the quantitative items surveyed are in Table 7.

TABLE 7

Means and Standard Deviations of Quantitative Items

				Arm Position*		Motion**	Good-enough
		< Alpha	< Beta	Left	Right		
House	M	0.59°	2.08°				
	SD	2.43°	4.07°				
Tree	M	0.60°	3.13°				
	SD	3.83°	4.87°				

* Measured by the degrees of deviation of the arm from the figure's vertical axis; for example, hands at the side would be zero degrees.

** No motion = zero, Motion = 1.

		Alpha	Beta	Arm Position* Left	Arm Position* Right	Motion**	Goodenough
Drawing of a Male	M	1.66°	2.09°	50.37°	50.92°	0.11	101.67
	SD	7.13°	5.31°	45.14°	42.92°	0.31	15.86
Drawing of a Female	M	2.19°	2.33°	55.58°	53.12°	0.10	102.49
	SD	6.81°	5.45°	44.80°	40.84°	0.29	16.31
Average Goodenough IQ	M						102.31
	SD						15.04
First Drawing	M						199.73
	SD						14.07
Second Drawing	M						104.43
	SD						15.72

The t values of those quantitative items significant at the one percent level ($t \geq 2.58$) are found in Table 8.

TABLE 8

Quantitative Items with ts Significant at One Percent Level

	IQ	Sex	Hand.	Grade	Grade^2
<Alpha of House					-2.64
<Beta of House				-2.90	
<Beta of Male Drawing				-2.83	
<Beta of Female Drawing		-2.73			
Left Arm Position of Male Drawing				-2.62	
Right Arm Position of Male Drawing				-3.30	
Goodenough IQ of Male Drawing	4.45	3.39		-4.51	
Goodenough IQ of Female Drawing	4.71	8.22		-5.44	
Goodenough IQ Average	4.97	6.22		-5.38	

DISCUSSION

In assessing the relative value of the drawings of a house, tree, and person for a short scoring system to evaluate a child's development, it appears that the house and the tree contribute little. Moreover, when it comes to easily scored, unambiguous, and relevant items, it would appear that the drawing of a man provides as much information as the drawing of both sexes.

It might be noted that in this study, 15 percent of the boys and 11 percent of the girls drew the opposite sex first. This approximates what has been found by Jolles (14) and others. It is doubtful that having children draw both sexes merely to find which they drew first is worthwhile. There would seem to be better indices of psychosexual adjustment than this.

Items from the Goodenough scale seem to be most related to the variables of this study. First of all, 47 percent of those items showed significant t values, whereas only 30 percent of the items culled from all other sources, including Buck's scoring system, were significant. Secondly, 10 of the 31 items of the short scoring system devised in this study were from the Goodenough scale. Thirdly, all six items in which at least 90 percent of the children responded were Goodenough's. The shortcomings of the Goodenough items, however, seem to be (1) that girls do better on them, and (2) that younger children score better than older ones (see Table 8).

In studying the variables of IQ, handedness, sex, and grade, it is apparent that handedness has little relationship to the items on which the drawings were scored. A larger sample of left-handed children might have produced different results, but this is unlikely because of the nature of the statistical evaluation employed in this project.

Items which are significantly related to intelligence tend to be so regardless of the child's grade. Take, for example, item 331, which indicates that a figure was doing something, not merely standing still. The frequency distribution for it is as follows:

	Male			Female			Total
Grade:	2	3	5	2	3	5	
Average IQ	0	6	5	1	1	7	20
Superior IQ	5	5	12	6	8	11	47

Therefore, it may be concluded that more superior children draw figures in action than do average children regardless of their grade or sex. That same kind of conclusion generally seems true of items showing a significant relationship to intelligence.

So far as the variable of sex is concerned, undoubtedly boys and girls draw differently. In general, girls pay more attention to details and are more exacting, or better coordinated, in executing their drawings. Of course, some details are related largely to feminine identification; such as glamourizing the female figure (24.5 percent of the girls did so, but only 3.5 percent of the boys), or specifically adorning the female with jewelry (done by 26 percent of the girls, but only 5 percent of the boys, 4 percent of whom were fifth-graders). Because many items tend to have more girls do them, or are easier for girls to do, separate scoring systems for boys and girls appear to be indicated.

Of the 31 items related to grade which were selected for the short scoring system, 15 favored the girls, whereas only one item favored the boys. For example, in item 306/1, not only did children of the lower grades tend to draw a figure having no neck, but more boys than girls also did so.

It might be argued that to avoid the obvious sex difference only the 15 items which do not favor either girls or boys should be used in the scoring system. That may be satisfactory, but the liklihood is that by so reducing the number of items, the reliability would be considerably lessened. Establishing the reliability of the scoring system is, of course, beyond the scope of this particular study; but in the next phase of this project, the relative advantage of only the neutral items versus separate scoring keys for boys and girls could be investigated.

Examining the items cited in the literature as indicative of adult psychopathology, it is apparent that for the most part those items are extremely rare in children's drawings. One exception has already been noted: the number of children who draw the opposite sex first. Similarly, 9 to 10 percent of the children draw sensuous or shaded lips, or eyelashes on the male figure. In both instances, 1½ times as many girls did so as boys. That certainly detracts from the conclusion that these are two signs of homosexual striving. Nevertheless, this study cannot answer whether any type of sexual conflict could exist in these children and be evidenced in such items. This study does indicate that one needs to interpret such signs with more than extreme caution.

That point is emphasized by such items as "transparent clothing", for which item 42.50 percent of the boys and 51.11 percent of the girls received a score. Inspection of the drawings reveals that the reason for the score was inadequate coordination or inattention to detail (such as not erasing a detail after adding clothing to the figure). Inadequate motor-perceptual skills also account for the frequency of such items as talon-like fingers, excessively thick or unruly hair, heavy demarcation at the waist (when they cannot as yet draw a proper belt and buckle), disproportionately small head, excessively large eyes, etc.

Until items regarded as indicative of psychopathology in adults are studied both in terms of the response of normal children and also the response of children with known pathology, such items must be viewed as occurring rarely in children and must be interpreted with great caution.

Selected items with a frequency of less than 5 percent were included in the scoring system. Further study may indicate that their rarity can serve to alert us to developmental deviations in those children who do show such characteristics in their drawings.

Conversely, items on which more than 90 percent of the children responded were also deemed desirable for screening purposes. Any child who does not include those characteristics in his drawings may be indicating thereby developmental deviations which need further investigation. Certainly omission of such characteristics should warrant trying to ascertain why the child did so.

Although not used directly in the short scoring system, the quantitative items do require some comment. First of all, the means and standard deviations of the Alpha and Beta Leans indicated in Table 7 are accounted for by the fact that in both cases the range of deviation is from -20 degrees to +28 degrees. In all cases, a "lean" of zero degrees measured from the vertical axis would have been the ideal. Actually, the data indicate that most drawings do not deviate by more than ±15 degrees, and that drawings of people deviate considerably more than do drawings of houses or trees. Furthermore, all drawings tend to curve in on themselves to a greater degree than they tend to deviate as a whole from the paper's vertical axis.

There is a similar wide range in the degrees of deviation of the arm's position from the side of the body. Quite a few children have difficulty in drawing the arms in a natural position near the sides of the body. Deviations of 90 degrees or more from the side of the body (vertical axis of the figure) was present in 31 percent of the left arms and in 27 percent of the right arms of the first person drawn, and in 33 percent of the left arms and 26 percent of the right arms of the second person drawn.

Please note that no angles of deviation were measured for those figures which were depicting action. Instead, they were labeled as "in motion". Of the first persons drawn, 49 percent were in motion, and of the second persons drawn, 35 percent were in motion. Sometimes one arm was engaged in a realistic action while the other arm was in repose. In such cases the arm position was measured only for the arm in repose.

As can be seen in Table 8, the higher the child's grade, the better he was able to decrease the angle of deviation from the figure's side. Similarly, as the child developed, he was able to make both the house and the person curve in on themselves less. That was truer of boys than of girls. On the other hand, the deviation of a drawing as a whole from its vertical axis did not prove to be significantly related to grade or sex.

Combining the items selected for the reasons discussed above, a resultant tentative scoring system is found in Figure 1. Such a scale needs to be researched in the anticipated following phases of this project. Obviously, its validity and reliability are not herein established. It needs to be applied to an enlarged and representative sample of "normal" children and also to adequate samples of children from various nosological groups before it can be regarded as a proper screening instrument.

FIGURE 1

A Tentative Scoring System for a Children's Draw-A-Man Developmental Screen

#	Description	Score	
		Present	Absent
1.^{N*}	Turned the paper 90 or 180 degrees before beginning to draw.	0	1
2.^{N}	A head is present; features alone are not credited.	2	1
3.^{N}	The head shows confusion of front view and profile.	0	1
4.^{G}	No neck is indicated.	0	1

* N indicates item is neutral, favoring neither boys or girls; G, that it favors girls; B, that it favors boys.

#	Description	Score	
		Present	Absent
5.^{N}	Two parallel lines join head and feet, making a combined head and trunk region (fuss-kopf).	0	1
6.^{G}	A neck is indicated by any clear distinction between the head and trunk.	2	1
7.^{N}	The neck is two-dimensional.	2	1
8.^{N}	Any clear indication of a trunk.	2	1
9.^{N}	The trunk is longer than wide.	2	1
10.^{G}	The trunk is two-dimensional, but not of conventional shape (i.e., it is a circle or triangle or square).	0	1
11.^{G}	The trunk is two-dimensional and of conventional shape.	2	1
12.^{B}	The face is wider than the trunk.	0	1
13.^{N}	The trunk is at least 3 times longer than the head, or the head is longer than the trunk.	0	1
14.^{N}	The trunk is between 1½ and 2 times longer than the head.	2	1
15.^{N}	Internal organs are visible because of a transparency.	0	1
16.^{N}	The head is clearly drawn, but the body is only vaguely sketched.	0	1
17.^{N}	The figure's outer lines are excessively heavy, but its inner lines are exceptionally light.	0	1
18.^{N}	The figure is drawn with lines which are obviously broken, approximating dashes.	0	1
19.^{N}	All lines are reasonably firm, meeting cleanly at their junctions without a marked tendency to cross, overlap, or leave gaps.	2	1

#	Description	Score	
		Present	Absent
20.^{N}	The arms are at least 2 times longer than the trunk, or the trunk is longer than the arms.	0	1
21.^{N}	The arms are equal to or longer than the trunk, but less than 1½ times longer.	2	1
22.^{G}	The arms are attached to the trunk segmentally, as if drawn separately and then glued on; or the arms are one-dimensional.	0	1
23.^{G}	The arms are properly attached to the trunk; the shoulder line continues into the arm line so that the arm is an extension of the shoulder.	2	1
24.^{N}	One or both forearms is wider than the upper arm.	0	1
25.^{N}	In full face, one or both arms extend at an angle of 90 degrees or more from the side.	0	1
26.^{N}	Refusal to complete the drawing below the waist; or the legs are omitted.	0	1
27.^{N}	The legs are longer than the trunk, but less than twice as long.	2	1
28.^{G}	The legs are attached anywhere to the trunk, and the arms are attached to the trunk at the correct place.	2	1
29.^{G}	Where the legs join the trunk there is an unnatural space separating them.	0	1
30.^{N}	Wrong number of legs.	0	1
31.^{N}	One leg is fully concealed in profile.	0	1
32.^{G}	Feet and legs are two-dimensional; from the tip of the sole to the instep must be longer than the foot is tall, and the foot must be 1/10 to 1/3 the length of the leg.	2	1
33.^{N}	Toes are specifically indicated on the feet.	0	1
34.^{N}	Both arms and legs are two-dimensional.	2	1

#	Description	Score	
		Present	Absent
35.^{N}	The elbow is indicated by a proper angle (not a curve), and the arm must hang from the shoulder at an angle of less than 90 degrees from the side of the body.	2	1
36.^{N}	Elbow, knee, or knuckle joints, or nails are specifically drawn.	0	1
37.^{N}	Eyes are present; one or two in number.	2	1
38.^{N}	A mouth is present.	2	1
39.^{N}	A nose is present.	2	1
40.^{G}	Facial proportions show fewer than 3 of the following: eyes or mouth wider than tall, ears or nose taller than wide.	0	1
41.^{N}	Facial proportions show the eyes and mouth wider than tall, and the ears and nose taller than wide.	2	1
42.^{N}	Wrong number of eyes.	0	1
43.^{N}	Eyes drawn as if closed.	0	1
44.^{N}	The nose is two-dimensional: 2 parallel lines joined at the bottom, or one vertical line curved at the bottom.	2	1
45.^{G}	A brow and/or lashes are present as details of the eye.	2	1
46.^{G}	Hair is shown in 2 places on the head.	2	1
47.^{G}	Hair is present on more than the circumference of the head; it is drawn better than a scribble, and the head outline cannot show through.	2	1
48.^{G}	Clothing is only suggested (by shading alone, or a trouser line, a belt, a hat, etc.).	0	1
49.^{G}	There are at least 2 articles of clothing which are not transparent.	2	1

#	Description	Score	
		Present	Absent
50.^{N}	There are any 4 of the following: (1) hat, (2) shoes, (3) coat, (4) shirt, (5) collar, (6) tie, (7) belt or suspenders, (8) trousers.	2	1
51.^{N}	A buckle is shown.	2	1
52.^{N}	The person is drawn as a clown, cartoon, or a silly-looking figure.	0	1
53.^{N}	The person is smoking.	0	1
54.^{N}	The person is using a gun.	0	1
55.^{N}	The person has a shadow.	0	1
56.^{N}	The person is shown from a rear view.	0	1
57.^{N}	The person is seated.	0	1

CONCLUSIONS AND IMPLICATIONS

In studying which items of the House-Tree-Person are significantly related to development in normal children, it was found that relatively few items (a total of 5.2 percent) were significantly related (at the one percent level) only to age-appropriate grade, which is the best index to development. A total of only 12.4 percent of the items were significantly related to age-appropriate grade in combination with intelligence and sex. Indeed, of all the 821 items surveyed, only 29.8 percent were significantly related to any of the variables investigated (handedness, intelligence, age-appropriate grade, and sex).

In studying the variable of handedness, it was found to have little relationship to the items surveyed, and it could not be meaningfully included in the scoring system.

As might be expected, those items reflecting superior intelligence indicated enhanced awareness of the environment and the details thereof, good perceptual-motor skills, and both the motivation and ability to develop a picture which is meaningful and pleasant to the child. In general, inspection of the frequency distributions indicated that children having superior intelligence tended to show those characteristics regardless of their grade, but especially the third-and fifth-graders.

The child's development was reflected by greater attention to the details which comprise the whole, more accurate proportions (due partly to increased motor control), and a more realistic perspective to what is drawn.

The characteristics of the girls' drawings were quite different from those of boys. In general, girls' drawings showed a greater tendency to reflect characteristics associated with development. For the most part, girls paid more attention to details and were more exacting in executing their drawings. Certain of the details which girls added were related to feminine identification (such as adorning the female figure with jewelry). However, such items were relatively few; i.e., most items reflecting a greater attention to detail were not associated with feminine identification.

The criteria used in selecting items for a short scoring system which could be used to screen normal development in large numbers of elementary-school children were: (1) that the item be unambiguous and easily understood; (2) that it be easily scored for presence or absence; (3) that it be relevant to development. Accordingly, items associated with the drawings of a house and tree were discarded. Furthermore, for the purpose of screening development, it seemed that the drawing of a man provided as much information as did the drawing of both sexes.

A total of 57 items were selected for inclusion in the tentative scoring system for screening development. Of those, 31 items were significantly related to age-appropriate grade. Only 15 of the 31 could not be predicted to favor either boys or girls, whereas 15 others could be predicted to favor girls and only one to favor boys. That factor must be recognized in any research projects which make use of that scoring system.

Twenty additional items were included on which less than 5 percent of the children responded. Those were culled from items regarded in the literature as indicative of adult psychopathology. They were included because if present in the drawings, they would alert the teacher to try to account for the reason. Certainly, however, psychopathology could not be concluded from their presence. Until such items are studied both in terms of the response of a representative sample of normal children and also the response of children with known psychopathology, those items must be viewed only as occurring rarely in children and must be interpreted with great caution. Indeed, further research may only reveal that such items are rare even in groups with known psychopathology.

Also included were 6 items on which more than 90 percent of the children responded. Since the details cited in those items were present in virtually all drawings, their absence would also serve as an alert to the teacher.

The tentative scoring system for screening development (found in Figure 1) which was devised in this study should be used only for research purposes. Its validity and reliability need to be established in the next phase of this research project by applying it to an enlarged and representative sample of normal children. Moreover, it also needs to be applied to adequate samples of children from various nosological groups, as a third phase of this research project. Only then could it be used as a proper screening instrument.

Although it is beyond the scope of this project, and therefore this report, to compare the present findings with those of Harris (13), the reader would find the comparison both interesting and informative. A number of the items included in this project's scoring system are also present in Harris's (which is a revision of Goodenough's), even though the criteria for selection differed. Although Harris used the drawing of a man, a woman, and the self, and although he concludes that children's figure drawings show little validity as a measure of affect and personality, it would be interesting to employ both the present scoring system and Harris's in the intended next phases of this research project. Despite the fact that his scale is designed to measure intelligence, it might also be useful in ascertaining normal development versus developmental deviations.

This study serves to emphasize Harris's plea that caution is needed in interpreting children's H-T-Ps as indicative of maladjustment or deviancy. Relatively few of all the 821 H-T-P items studied were significantly related solely to development. Therefore, to make diagnostic judgments concerning development based on items not significantly related to development cannot be justified. Moreover, in making diagnostic judgments, the interrelationship of sex and development must be considered, as well as the influence of intelligence. Even with what was learned in this study about the relative importance of these variables to the drawing characteristics of children, there is insufficient information to make objective and reliable diagnostic judgments.

Before the H-T-P could be used as a proper diagnostic tool, additional studies are needed of the application of the scoring system devised in this study to a normal population and to nosological groups. However, the results of this investigation suggest that for the purpose of developing a screening device to survey development in children, additional validity and reliability studies would be more meaningfully applied to the Draw-a-Man than to the H-T-P. The D-a-P would be even easier and less time consuming to administer and easier to score. If the additional studies warrant its use, the D-a-P would be a useful screening device for teachers and clinicians alike.

SUMMARY

The purposes of this study were to determine which items of the House-Tree-Person test were significantly related to development in normal children and to develop a short scoring system to screen elementary-school children for normal development. The H-T-P was scored for the presence or absence of 821 qualitative items and for 12 quantitative measurements. Those scores were obtained on the drawings of 360 children selected from a sample of 1,066 children attending public schools in suburban Philadelphia. Selection criteria were that the children (1) be of age-appropriate grade; (2) be within a Kuhlmann-Anderson IQ of 100 to 109, or 120 to 129; (3) have no physical defects; (4) have no emotional problems; (5) have a preferred hand; (6) be Caucasian.

The four independent variables statistically studied by means of regression analysis for their effect on the H-T-P items were sex, handedness, IQ, and age-appropriate grade. Of the 821 qualitative items studied, 576 did not have a t value significant at the one percent level: Of the 245 with significant ts, 176 had responses $\geq$ 10 percent and $\leq$ 90 percent. Of those, 50 were related to sex, 36 to sex and grade, 30 to grade, and 19 to intelligence.

Omitting those items which were ambiguous, difficult to understand or to score, or irrelevant to development, 57 items were selected for the scoring system. Excluded were items associated with the house and the tree. It was further decided that for screening purposes the drawing of a man provided as much information as did the drawing of both sexes.

The tentative scoring system devised in this study to be applied to the Draw-a-Man test for the purpose of screening development should be used only for research purposes. Its validity and reliability need to be established in the next phases of this research project by applying it to an enlarged and representative sample of normal children and to adequate samples of children from various nosological groups.

REFERENCES

1. Ansbacher, H. L.. "The Goodenough Draw-a-Man Test and Primary Mental Abilities," J. Consult. Psychol., 1952, 16, 176-180.

2. Aupecle, M.. "Dessins-robots," Enfance, 1958, No. 2. 145-150.

3. Bieliauskas, V. J., and Moens, J. F.. "An Investigation of the Validity of the H-T-P as an Intelligence Test for Children," J. Clin. Psychol., 1961, 17, 178-180.

4. Bieliauskas, V. J., and Pennington, L. W., Jr.. "Developmental Trends in Children's H-T-P Drawings of a Person," Va. J. Sci., 1954, 5-6, 323. (Abstract).

5. Beck, H. S.. "A Study of the Applicability of the H-T-P to Children with Respect to the Drawn House," J. Clin. Psychol., 1955, 11, 1960-1963.

6. Buck, J. N.. "The H-T-P Technique; A Qualitative and Quantitative Scoring Manual," J. Clin. Psychol., 1948, 4, 317-396.

7. Buck, J. N.. "The H-T-P Technique; A Qualitative and Quantitative Scoring Manual," Monogr. Suppl. J. Clin. Psychol., 1948, No. 5.

8. Butler, R. I., and Marcuse, F. L.. "Sex Identification at Different Ages Using the Draw-A-Person Test," J. Proj. Tech., 1959, 23, 299-302.

9. Davies, Owen L., The Design and Analysis of Industrial Experiments. New York: Hafner Publishing Co., 1956, 51-56.

10. Dunn, M. B.. "Global Evaluation of Children's Drawings of 'person' and 'self'," Dissert. Abstr., 1955, 15, 1254-1255.

11. Duffy, F. X.. "The Development of Form Concepts in the Drawing of a Tree by Children: Kindergarten through 9th Grade. Unpublished master's thesis, Richmond Professional Inst., 1953.

12. Goodenough, Florence L.. Measurement of Intelligence by Drawings. Yonkers-On-Hudson: World Book, 1926.

13. Harris, D. B.. Children's Drawings as Measures of Intellectual Maturity: A Revision and Extension of the Goodenough Draw-A-Man Test. NYC: Harcourt, Brace, and World, 1964.

14. Jolles, I.. "A Study of the Validaity of Some Hypotheses for the Qualitative Interpretation of the H-T-P for Children of Elementary School Age: I. Sexual Identification," J. Clin. Psychol., 1952, 8, 113-118.

15. Jolles, I., and Beck H. S.. "A Study of the Validity of Some Hypotheses for the Qualitative Interpretation of the H-T-P for Children of Elementary School Age: III. Horizontal Placement," J. Clin. Psychol., 1953, 9, 161-164.

16. Jolles, I., and Beck, H. S.. "A Study of the Validity of Some Hypotheses for the Qualitative Interpretation of the H-T-P for Children of Elementary School Age: IV. Vertical Placement," J. Clin. Psychol., 1953, 9, 164-167.

17. Kuhlmann, F., and Anderson, Rose G.. The Kuhlmann-Anderson Intelligence Tests: Hanbook. (6th ed.) Princeton, N. J.: Personnel Press, 1952.

18. Leach, Joy. An Analysis of the Use of Space Constriction in Drawings of the House on H-T-P Test by Children by Means of a Space Constriction Index. Unpublished study, School of Clinical and Applied Psychol., Richmond Professional Inst., 1953.

19. Machover, Karen. "Human Figure Drawings of Children," J. Proj. Tech., 1953, 17, 85-91.

20. Markham, Sylvia.. "An Item Analysis of Children's Drawings of a House," J. Clin. Psychol., 1954, 10, 185-187.

21. Merguet, Luise. "Der Goodenough-Test in der Erziehungsberatung," Prax. Kinderpsychol. Kinderpsychiat., 1958, 7, 161-166.

22. Nel, B. F., and Esterhuysen, C. H.. The Drawing of the Human Figure as a "Projective" Technique. Pretoria, S. Africa: Univ. Pretoria, 1958.

23. Pennington, L. W., Jr.. Space Constriction in Drawings of a Person on the H-T-P Test by Children from 4 Years 6 Months to 14 Years 5 Months of Age. Unpublished study, School of Clinical and Applied Psychol., Richmond Professional Inst., 1953.

24. Weider, A., and Noller, P. A.. "Objective Studies of Children's Drawings of Human Figures. II. Sex, Age, Intelligence," J. Clin. Psychol., 1953, 9, 20-23.

BIBLIOGRAPHY

Albee, G. W., and Hamlin, R. M.. "An Investigation of the Reliability and Validity of Judgments of Adjustment Inferred from Drawings," J. Clin. Psychol., 1949, 5, 389-391.

Albee, G. W., and Hamlin, R. M.. "Judgment of Adjustment from Drawings: The Applicability of Rating Scale Methods," J. Clin. Psychol., 1950, 6, 363-365.

Alexander, T.. "The Effect of Psychopathology in Children's Drawings of the Human Figure," J. Psychol., 1963, 56, 273-282.

Ames, Louise B. and Ilg, Frances L.. "The Gesell Incomplete Man Test as a Measure of Developmental Status," Genetic Psychol. Monogr., 1963, 68, 251-307.

Anastasi, Anne, and D'Angelo, Rita Y.. "A Comparison of Negro and White Preschool Children in Language Development and Goodenough Draw-a-Man I. Q.," J. Genet. Psychol., 1952, 81, 147-165.

Anderson, H. H., and Anderson, Gladys L. (Eds.). An Introduction to Projective Techniques. New York: Prentice-Hall, 1951. 519-524.

Ansbacher, H. L.. "The Goodenough Draw-a-Man Test and Primary Mental Abilities," J. Consult. Psychol., 1952, 16, 176-180.

Arbit, J.; Lakin, M.; and Mathis, A. G.. "Clinical Psychologist's Diagnostic Utilization of Human Figure Drawings," J. Clin. Psychol., 1959, 15, 325-327.

Arend, R.. Zaburzenia Rysunkowe (Dyspinksje) a Rysunek Dzieciecy. Warszawa: Panstwowe Zakiady Wydawnictw Lekarskich, 1950.

Armstrong, R. G., and Hauck, P. A.. "Correlates of the Bender-Gestalt Scores in Children," J. Psychol. Stud., 1960, 11, 153-158.

Arnstein, E.. A Drawing Test as a Rough Measure of Occupational Fitness of Young Immigrants. Jerusalem: Hadassah Voc. Educ. Services, 1954. (Mimeographed).

Aupecle, M.. "Dessins-robots," Enfance, 1958, No. 2. 145-150.

Badri, M. B. and Dennis, W.. "Human-Figure Drawings in Relation to Modernization in Sudan," J. Psychol., 1964, 58, 421-425.

Baltrusch, Hans-Joachim. "Klinisch-Psychologische Erfahrungen mit dem Figure-Drawing Test," *Z. Psycho-som. Med.*, 1956, 3, 29-40.

Barcellos, Fernanda A.. *O Teste do Desenho e o Estudo da Personalidade Infantil*. Niteroi: Livraria Universitaria, 1952.

Barcellos, Fernanda A.. *Psico-Diagnostico Atraves do Desenho Infantil*. Araruama: (Author), 1952-1953.

Barcellos, Fernanda A.. *O Sociodiagnostico; Nova Tecnica Sociometrica Baseada num Metoda Projectivo Atraves do Desenho*. Araruama: (Author), 1953.

Barcellos, Fernanda A.. *Sociodiagnostico Atraves do Desenho Infantil*. Araruama: (Author), 1953.

Bardet, C.; Moreigne, F.; and Senecal, J.. "Application du Test de Goodenough a des Ecoliers Africains de 7 a 14 ans," *Enfance*, 1960, No. 2. 199-208.

Barry, H., III.. "Relationships between Child Training and the Pictorial Arts," *J. Abnorm. Soc. Psychol.*, 1957, 54, 380-383.

Baruch, Dorothy W., and Miller, H.. "Developmental Needs and Conflicts Revealed in Children's Art," *Amer. J. Orthopsychiat.*, 1952, 22, 186-203.

Bash, K. W., and Lampl, E.. "Intelligenz-und Ausdrucksmerkmale im Rorschach-Test und in Kinderzeichnungen," *Z. Kinderpsychiat.*, 1951, 17, 174-184.

Baumgarten, Franziska. "Die Hauszeichnungen von Kindern als Nachwirkung der Massenzerstorungen im Kriege," *Z. Kinderpsychiat.*, 1949, 16, 74-83.

Baumgarten, Franziska, and Tramer, M.. *Kinderzeichungen in Verleichend Psychologischer Beleuchtung*. (2nd ed.) Bern: A. Francke, 1952.

Baumstein-Heissler, N.. "A Propos du Dessin: Quelques Opinions et Travaux de Psychologues Societiques," *Enfance*, 1955, 8, 377-399.

Beck, H. S.. *A Study of the Differences between Normals and Mentally Handicapped Organics in the Drawing of the House*. Unpublished Manuscript.

Beck, H. S.., "A Study of the Applicability of the H-T-P to Children with Respect to the Drawn House," *J. Clin. Psychol.*, 1955, 11, 1960-1963.

Bell, J. E.. ."Perceptual Development and the Drawings of Children," *Amer. J. Orthopsychiat.*, 1952, 22, 386-393.

Bemelmans, F.. "Le Test de Dessin d'A. Rev," *Bull. Orient. Scol. Profess.*, 1958, 7, 11-30.

Bennett, V. D.. "Does Size of Figure Drawing Reflect Self-Concept?" *J. Consult. Psychol.*, 1964, 28, 285-286.

Bennett, Virginia D. C.. "*An Investigation of the Relationships Among Children's Self-Concept, Achievement, Intelligence, body size, & the Size of their Figure Drawing*. Paper read at 1963 Ann. Conv. Amer. Psychol. Assoc., 18, No. 7, 383.

Berger, A., and Bliss, M.. "Colored Drawings by Mentally Defective Children of Three Etiologic Groups," *Train. Sch. Bull.*, 1954, 50, 191-198.

Bernson, Marthe, *Du Gribouillis au Dessin*. Neuchatel, Switzerland: Delachaux et Niestle, 1957.

Berryman, E.. "The Self-Portrait: A Suggested Extension of the H-T-P," *Percep. Mot. Skills*, 1959, 9, 411-414.

Bettelheim, B. "Schizohrenic Art: A Case Study," *Sci. Amer.*, 1952, 186, 30-34.

Bieliauskas, V. J.. "*Current and Proposed Research Designed to Validate the H-T-P.*" Paper Read at Amer. Psychol. Assoc., Cleveland, September, 1953.

Bieliauskas, V. J.. "Theory and Method in H-T-P Research," *Va. J. Sci.*, 1954, 5-6, 322. (Abstract).

Bieliauskas, V. J.. "Scorer's Reliability in the Quantitative Scoring of the H-T-P Technique," *J. Clin. Psychol.*, 1956, 12, 366-369.

Bieliauskas, V. J.. *The H-T-P Bibliography*. West Los Angeles: Western Psychological Services, 1957.

Bieliauskas, V. J.. "Sexual Identification in Children's Drawings of the Human Figure," *J. Clin. Psychol.*, 1960, 16, 42-44.

Bieliauskas, V. J., and Briston, R. B.. "The Effect of Formal Art Training upon the Quantitative Scores of the H-T-P," J. Clin. Psychol., 1959, 15, 57-59.

Bieliauskas, V. J. (Chairman); Brown, F.; Hammer, E. F.; Landisberg, Selma; Machover, Karen; and Piotrowski, Z. A.. "An Evaluation of the H-T-P in Relation to Other Projective Techniques," Symposium at East. Psychol. Assoc., Philadelphia, April, 1955.

Bieliauskas, V. J., and Heffron, A. B., "Differences in Performance on the Chromatic vs. Achromatic H-T-P Drawings," J. Clin. Psychol., 1960, 16, 334-335.

Bieliauskas, V. J., and Kirkham, Sandra L.. "An Evaluation of the 'Organic Signs' in the H-T-P Drawings," J. Clin. Psychol., 1958, 14, 50-54.

Bieliauskas, V. J., and Moens, J. F.. "An Investigation of the Validity of the H-T-P as an Intelligence Test for Children," J. Clin. Psychol., 1961, 17, 178-180.

Bieliauskas, V. J., and Pennington, L. W., Jr.. "Developmental Trends in Children's H-T-P Drawings of a Person," Va. J. Sci., 1954, 5-6, 323. (Abstract).

Birch, J. W.. "The Goodenough Drawing Test and Older Mentally Retarded Children," Amer. J. Ment. Def., 1949, 54, 218-224.

Bliss, M., and Berger, A.. "Measurement of Mental Age as Indicated by the Male Figure Drawings of the Mentally Subnormal Using Goodenough and Machover Instructions," Amer. J. Ment. Def., 1954, 59, 73-79.

Bloom, L.. "Aspects of the Use of Art in the Treatment of Maladjusted Children," Ment. Hyg., New York, 1957, 41, 378-385.

Bodwin, R. F., and Bruck, M., "The Adaptation and Validation of the Draw-A-Person Test as a Measure of Self Concept," J. Clin. Psychol., 1960, 16, 427-429.

Boernstein, W. S.. "Drawings as Objective Criteria for Neurotic Conflict and Their Change during Psychoanalysis," Arch. Neurol. Psychiat., Chicago, 1950, 64, 479-487.

Bolin, B. J.; Schneps, Ann; and Thorne, W. E.. "Further Examination of the Tree-Scar-Trauma Hypothesis," *J. Clin. Psychol.*, 1956, 12, 395-397.

Boring, R. O., and Topper, R. C.. "A Psychodiagnostic Screening Technique. V. A. Hospital, Tuscaloosa, Alabama, 1949. 24-30. (Mimeographed)

Boussion-Leroy, A.. "Dessins en Transparence et Niveau de Development," *Enfance*, 1950, 3, 276-287.

Boutonier, Juliette. *Les Dessins des Enfants*. Paris: Editions du Scarabee, 1953.

Bradshaw, D. H.. *A Study of Group Consistencies on the Draw-A-Person Test in Relation to Personality Projection*. Master's thesis, Catholic Univ., 1952.

Brengelmann, J. C.. "Grosse und Veranderung der Grosse von Reproduktionen als Mass des Bewegungsausdrucks," *Z. Diagnost. Psychol.*, 1955, 3, 23-33.

Brengelmann, J. C., and Marconi, J. T.. "Expressive Movement in Abnormals, with Particular Reference to Extraversion and Psychoticism," *Acta Psychol.*, 1958, 14, 200-214.

Bried, C.. "Le Dessin de L'enfant; Premieres Representations Humaines," *Enfance*, 1950, 3, 261-275.

Briggs, P. F. and Nelson, Susan. "The Effect of Non-Dominant Hand Execution on the Goodenough Draw-A-Man Test," *J. Clin. Psychol.*, 1964, 20, 496.

Britton, J. H.. "Influence of Social Class on the Draw-A-Man Test," *J. Educ. Psychol.*, 1954, 45, 44-51.

Brown, D. G., and Tolor, A.. "Human Figure Drawings as Indicators of Sexual Identification and Inversion," *Percept. Mot. Skills*, 1957, 7, 199-211.

Brown, F.. "*A Statistical Analysis of Some Inter-Relationships between Discrete Wholes of the H-T-P Test*. Paper read at Amer. Psychol. Assoc., Washington, D. C., September, 1952.

Brown, F.. "House-Tree-Person and Human Figure Drawings," In D. Brower & L. E. Abt (Eds.), *Progress in Clinical Psychology*. Vol. I., New York: Grune & Stratton, 1952. 173-184.

Bruck, M. and Bodwin, R. F.. "Age Differences between SCS-DAP Test Results and GPA," J. Clin. Psychol., 1963, 19, 315-6.

Bruck, M. and Bodwin, R. F.. "The Relationship between Self-Concept & the Presence & Absence of Scholastic Underachievement," J. Clin Psychol., 1962, 18, 181-2.

Buck, J. N.. "JNB Drawing Test," Va. Ment. Hyg. Surv., 1940, 2, No. 12.

Buck, J. N.. "The H-T-P Technique; A Qualitative and Quantitative Scoring Manual," J. Clin. Psychol., 1948, 4, 317-396.

Buck, J. N.. "The H-T-P Technique; A Qualitative and Quantitative Scoring Manual," Monogr. Suppl. J. Clin. Psychol., 1948, No. 5.

Buck, J. N.. "The H-T-P Test," J. Clin. Psychol., 1948, 4, 151-159.

Buck, J. N.. "The Use of the H-T-P in Personality Analysis," Amer. Psychologist, 1948, 3, 284. (Abstract).

Buck, J. N.. "The H-T-P Technique," J. Clin. Psychol., 1949, 5, 37-74.

Buck, J. N.. Administration and Interpretation of the H-T-P Test: Proceedings of the H-T-P Workshop Held at V. A. Hospital, Richmond, Va., March 31-April 2, 1950. California: Western Psychological Services, 1950. (Mimeographed).

Buck, J. N.. The Use of the H-T-P in Differential Diagnosis in Mental Deficiency. Paper Read at Amer. Psychol. Assoc., Pennsylvania State Univ., September, 1950.

Buck, J. N.. "Directions for Administration of the Achromatic-Chromatic H-T-P," J. Clin. Psychol., 1951, 7, 274-276.

Buck, J. N.. "The Quality of the Quantity of the H-T-P," J. Clin. Psychol., 1951, 7, 352-356.

Buck, J. N.. "Una Descripcion Breve de la Tecnica C-A-P," Rev. Psicol. Gen. Apl., Madrid, 1952, 7, 11-28.

Buck, J. N.. "Tests of Personality: Picture and Drawing Techniques. D. House-Tree-Person Drawing Technique," In A. Weider, Contributions Toward Medical Psychology. New York: Ronald, 1953. 688-701.

Buhrer, Lydia; de Navarro, Raquel de San Martin; and Velasco, Emma S.. "Ensayo de Tipificacion de la Prueba Mental 'Dibujo de un Hombre' de F. Goodenough," Publ. Inst. Biotipol. Exp., 1951, Univ. Cuyo, 2, 133.

Burbury, W. Mary. "The Use of Children's Drawings in Clinical Diagnosis," J. Ment. Sci., 1957, 103, 487-506.

Butler, R. I., and Marcuse, F. L.. "Sex Identification at Different Ages Using the Draw-A-Person Test," J. Proj. Tech., 1959, 23, 299-302.

Caligor, L.. A New Approach to Figure Drawing. Springfield, Ill.: Charles C. Thomas, 1957.

Carkhuff, R. R.. "Characteristics Distinguishing Mental Defectives from Normals in Drawing Tasks," Dissert Abstr., 1963, 24, 2555-56.

Carkhuff, R. R.. "The Goodenough Draw-A-Man Test as a Measure of Intelligence in Noninstitutionalized Subnormal Adults," J. Consult. Psychol., 1962, 26, 476.

Carney, R. E., and Trowbridge, N.. "Intelligence Test Performance of Indian Children as a Function of Type of Test and age," Percep. Mot. Skills, 1962, 14, 511-514.

Centers, Louise, and Centers, R.. "A Comparison of the Body Images of Amputee & Non-Amputee Children as Revealed in Figure Drawings," J. Proj. Tech. Pers. Assess., 1963, 27, 158-65.

Chateau, J.. "La Lateralisation et ses Effets. (Lateralization & its effects)," Enfance, 1962, No. 3, 223-62.

Clawson, A.. "Relationship of Psychological Tests to Cerebral Disorders in Children: A Pilot study," Psychol. Rep., 1962, 10, 187-190.

Cohn, R.. "Role of 'Body Image Concept' in Pattern of Ipsilateral Clinical Extinction," A.M.A. Arch. Neurol. Psychiat., 1953, 70, 503-509.

Cohn, R.. *The Person Symbol in Clinical Medicine: A Correlation of Picture Drawings with Structural Lesions of the Brain.* Springfield, Ill.: C. C. Thomas, 1960.

Collon, H.. "Hemiplegie Congenitale et Negligence de L'espace Dnas le Dessin de L'arbre. (Congenital Hemiplegia & Neglect of Space in Tree Drawing,)" *Acta. Neurol. Psychiat. Belgica*, 1964, 64, 33-43.

Condell, J. F.. "Note on the Use of the Ammons Full-Range Picture Vocabulary Test with Retarded Children," *Psychol. Rep.*, 1959, 5, 150.

Corah, N. L. and Corah, Patricia L.. "A Study of Body Image in Children with Cleft Palate and Cleft Lip," *J. Gen. Psychol*, 1963, 103, 133-7.

Cordeau, R.. "Psychologie du Dessin Enfantin," *Enfance*, 1949, 2, 54-59.

Cotte, S.. "A Propos D'omissions de Dissimulations dans le Test de Goodenough. Confrontation Avec le Psychodiagnostic de Rorschach," *Crianca Portug.*, 1949-1950, 9, 41-68.

Cowden, R. C.; Deabler, H. L., and Feamster, J. H.. "The Prognostic Value of the Bender-Gestalt, H-T-P, TAT, and Sentence Completion Test," *J. Clin. Psychol.*, 1955, 11, 271-275.

Craddick, R. A.. "Height of Christmas Tree Drawings as a Function of Time," *Percept. Mot. Skills*, 1963, 17, 335-9.

Craddick, R. A.. "Size of Easter Egg Drawings Before & After Easter," *Percept. Mot. Skills,* 1962, 15, 591-3.

Craddick, R.A.. "The Self-Image in the Draw-A-Person Test & Self-Portrait Drawings," *J. Proj. Tech.*, 1963, 27, 288-91.

Crandall, V. J.. "Observations on the Use of Projective Techniques in Child Development Research," *J. Proj. Tech.*, 1956, 20, 251-255.

Crannell, C. W., and Plaut, Erika. "Drawings of a Three-Dimensional Object by Mental Patients: A Preliminary Report," *J. Psychol.*, 1955, 39, 351-354.

Dalla Volta, A.. "La Rappresentazions Grafica di Alcuni Aspetti del Mondo Esterno Come Test del Grado di Sviluppo Mentale del Bambino," *Arch. Psicol. Neurol. Psychiat.*, 1951, 12, 325-332.

Dall'Oglio, G. N.. "Il Test Dell' Albero (Baumtest) di Kock e Dell' 'omino' di F. L. Goodenough in un Gruppo di Bambini Ricoverati Presso un Orfanotrofio," *Neurone*, 1955, 3, 229-237.

Davidson, Alene J.. "Cultural Difference in Personality Structure as Expressed in Drawings of the Human Figure," *Dissert. Abstr.*, 1954, 14, 394.

Davies, Owen L., *The Design and Analysis of Industrial Experiments*. New York: Hafner Publishing Co., 1956, 51-56.

Debrunner, H.. "Mandelasymbolik und Asymmetrische Ausdrucksformen in der Phantasiezeichnung," *Schweiz. Z. Psychol. Anwend.*, 1950, 9, 426-441.

Defayolle, M.; Matthieu, M. and Fustier, P.. "Essai D'une Approche Psychometrique du Test De L'arbre (Trial of a Psychometric Approach of the tree test)," *Psychol. Franc.*, 1962, 7, 223-229.

De Freitas, O., Jr.. "Investigacoes Sombre o Desenho da Figura Humana," *Bol. Psicol. Apl.*, Recife, 1957, 2, 1-24.

Dellaert, R.. "L'expression Libre en Psychotherapie (Free Drawing in Psychotherapy)," *Acta Neurol. Psychiat. Belgica*, 1964, 64, 9-22.

Demming, J. A.. "*The H-T-P Test as an Aid in the Diagnosis of Psychopathic Personality*. Unpublished master's thesis, Kent State Univ., 1949.

Denner, Annette. "Dessin et Rationalisation Chez L'enfant," *Enfance*, 1953, 6, 291-328.

Dennis, W.. "Performance of Near Eastern Children on the Draw-A-Man Test," *Child Develpm.*, 1957, 28, 427-430.

Deutsch, F.. "Mind, Body and Art: II," *Acta Psychotherapeutica et Psychosomatica*, 1963, 11, 181-192.

Dhondiyal, Sachidanand. (India) "Art as a Projective Technique for Deviant Children," U. Rajasthan Stud. Educ., 1962, 5, 60-126.

Dennis, W.. "Handwriting Conventions as Determinants of Human Figure Drawings," *J. Consult. Psychol.*, 1958, 22, 293-295.

Diamond, S.. "The House and Tree in Verbal Fantasy: I. Age and Sex Differences in Themes and Content," *J. Proj. Tech.*, 1954, 18, 316-325.

Diamond, S.. "The House and Tree in Verbal Fantasy: II. Their Different Roles," *J. Proj. Tech.*, 1954, 18, 414-417.

Diaz Arnal, Isabel.. "El Psiquismo del Deficiente a Traves del Dibujo," *Rev. Psicol. Gen. Apl.*, Madrid, 1950, 5, 735-743.

Djukic, S.. "Evolucija Pojedinih Delova Tela i Lica u Decjem Crtezu Ljudske Figure," *Savremena Skola*, 1953, 8, 450-458.

Drainer, Barbara A.. "A Study of Children's Self-Feelings Through the Draw-A-Family Technique and Spontaneous Paintings," *Dissert. Abstr.*, 1964, 24, 3433.

Duffy, F. X.. "*The Development of Form Concepts in the Drawing of a Tree by Children*: *Kindergarten through 9th Grade*. Unpublished master's thesis, Richmond Professional Inst., 1953.

Duffy, F. X.. "The Development of Form Concepts in the Drawing of a Tree by Children: Kindergarten through 9th Grade," *Va. J. Sci.*, 1954, 4, 324. (Abstract.)

Dunn, M. B.. "Global Evaluation of Children's Drawings of 'person' and 'self'," *Dissert. Abstr.*, 1955, 15, 1254-1255.

Elkisch, Paula. "Significant Relationship between the Human Figure and the Machine in the Drawings of Boys," *Amer. J. Orthopsychiat.*, 1952, 22, 379-385.

Ellis, A., and Rosen, E.. "H-T-P: A Projective Device and a Measure of Adult Intelligence," In O. K. Buros, (Ed.), *The Fourth Mental Measurements Yearbook.* New Jersey: Gryphon Press, 1953. 178-181.

Eng, Helga. *Psychology of Child and Youth.* Vol. I. New York: Humanities Press, 1957.

Eng, Helga. *Psychology of Child and Youth.* Vol. II. New York: Humanities Press, 1957.

England, A. O.. "Color Preference and Employment in Children's Drawings," *J. Child Psychiat.*, 1952, 2, 343-349.

Epstein, L., and Hartford, H.. "Some Relationships of Beginning Strokes in Handwriting to the Human Figure-Drawing Test," Percep. Mot. Skills, 1959, 9, 55-62.

Estes, Betsy W.; Curtin, Mary E.; DeBurger, R. A.; and Denny Charlotte. "Relationships between 1960 Stanford-Binet, 1937 Stanford-Binet, WISC, Raven, and Draw-A-Man," J. Consult. Psychol., 1961, 25, 388-391.

Evans, R. M.. "The Expressiveness of Color," Acta Psychol., 1955, 11, 224-225. (Abstract).

Exner, J. E., Jr.. "A Comparison of the Human Figure Drawings of Psychoneurotics, Character Disturbances, Normals, and Subjects Experiencing Experimentally-Induced Fear," J. Proj. Tech., 1962, 26, 392-7.

Faretra, Gloria. "Emotional Disturbance in Children Related to Body-Image Problems," Paper read at 1963 Ann. Conv. Amer. Psychol. Assoc., Aug. 29-Sept. 7, 1963, Phila. Pa., Amer. Psychol., 1963, 18, 7, 375.

Fischer, H.. "Die Wechselbeziehungen Zwischen Konstitution und Kinderzeichnung," Prax. Kinderpsychol. Kinderpsychiat., 1952, 1, 302-305.

Fischer, H.. "Die Konstitution des Kindes und Ihre Spiegeling in Kindlichen Malereien," Psychol. Rdsch., 1957, 8, 120-135.

Fisher, G.. "A Preliminary Investigation of Schizophrenic Indicators in the Machover Test," Bull. Marit. Psychol. Assoc., 1952. 11-14.

Fisher, G. M.. "Comment on Starr and Marcuse's 'Reliability in the Draw-A-Person Test,'" Percep. Mot. Skills, 1959, 9, 302.

Fisher, G. M.. "Nudity in Human Figure Drawings," J. Clin. Psychol., 1961, 17, 307-8.

Fisher, Lillian J.. "An Investigation of the Effectiveness of the Human Figure Drawing as a Clinical Instrument for Evaluating Personality," Dissert. Abstr., 1952, 12, 780.

Fisher, S.. "Body Reactivity Gradients and Figure Drawing Variables," J. Consult. Psychol., 1959, 23, 54-59.

Fisher, S., and Fisher, Rhoda. "Test of Certain Assumptions Regarding Figure Drawing Analysis," J. Abnorm. Soc. Psychol., 1950, 45, 727-732.

Flury, M.. "Zeichne Deine Familie, "Prax. Kinderpsychol. Kinderpsychiat., 1954, 3, 117-125.

Fox, Cynthia; Davidson, K.; Lighthall, F.; Waite, R.; and Sarason, S. B.. "Human Figure Drawings of High and Low Anxious Children," Child Develpm., 1958, 29, 297-301.

Freed, H., and Pastor, Joyce T.. "Psychodiagnostic Drawing Test," A.M.A. Arch. Neurol. Psychiat., Chicago, 1951, 65, 125-126. (Abstract and discussion).

Freyberger, Ruth M.. "Differences in the Creative Drawings of Children of Varying Ethnic and Socio-Economic Backgrounds in Pennsylvania based on Samplings of Grades 1 Through 6," In Abstracts of Doctoral Dissert., Pa. State Coll., 1951, 14, 265-270.

Fried, Edrita. Artistic Productivity and mental health. Springfield, Ill.: C. C. Thomas, 1964.

Furrer, W.. Die Farbe in der Personalichkeitsdiagnostik. Lehrbuch des Luscher Testes. Bern: Hans Huber, 1954.

Gallese, A. J., Jr., and Spoerl, Dorothy T.. "A Comparison of Machover and TAT Interpretation," J. Soc. Psychol., 1954, 40, 73-77.

Gasorek, Kathryn A.. "A Study of the Consistency and the Reliability of Certain of the Formal and Structural Characteristics of Children's Drawings," Dissert. Abstr., 1952, 12, 34-35.

Gasser, Edith S., "An Investigation of the Body Image of Boys as Expressed in Self Drawings: An Intercultural Study," Dissert. Abstr., 1962, 22, 4425-4426.

Gattegno, C.. "Psycholgie du Dessin Enfantin," Enfance, 1948, 1, 407-411.

Ghesquiere-Dierickx, B.. "Comment Dessinent les Enfants: Evolution du Dessin Selon L'age," Enfance, 1961, 2, 179-183.

Gibson, Katherine V.. "Maturation of Perspective in Children's Drawings of Houses. Unpublished manuscript, School of Clinical and Applied Psychology, Richmond Professional Inst.

Goldworth, S.. "A Comparative Study of the Drawings of a Man and a Woman Done by Normal, Neurotic, Schizophrenic, and Brain-Damaged Individuals. Unpublished Doctoral Dissertation, Univ. of Pittsburgh, 1950.

Gomez del Cerro, J.. "El Test del Arbol en Clinica Psiquiatrica; Baum-Test," Acta Med. Hispanica, 1950, 8, 53-58.

Goodenough, Florence L.. Measurement of Intelligence by Drawings. Yonkers-On-Hudson: World Book, 1926.

Goodenough, Florence L., and Harris, D. B.. "Studies in the Psychology of Children's Drawings: II. 1928-1949," Psychol. Bull., 1950, 47, 369-433.

Gouin, Decarie, Therese. "Une Methode D'exploration de la Personnalite Infantile," Rev. Psychol., Montreal, 1949, 1, 354-363.

Grams, A., and Rinder, L.. "Signs of Homosexuality in Human-Figure Drawings," J. Consult. Psychol., 1958, 22, 394.

Granick, S.. "Comparative Performance of Normal and Psychoneurotic Children on the Draw-A-Person Test," J. Germantown Hosp. 1963, 4, 17-22.

Gray, D. M., and Pepitone, A.. "Effect of Self-Esteem on Drawings of the Human Figure," J. Consult. Psychol., 1964, 28, 452-5.

Griffith, A. V., and Peyman, D. A. R., "Eye-Ear Emphasis in the Draw-A-Person Test as Indicating Ideas of Reference," J. Consult. Psychol., 1959, 23, 560.

Grill, Ingelborg. "Entwicklung eines Unstrukturierten Intelligenztests," Z. Exp. Angew. Psychol., 1960, 7, 211-225.

Grozinger, W. Scribbling, Drawing, Painting: The Early Forms of the Child's Pictorial Creativeness. New York: Praeger, 1955.

Guenzburg, H. C., "The Significance of Various Aspects in Drawings by Educationally Subnormal Children," J. Ment. Sci., 1950, 96, 951-975.

Guenzburg, H. C.. "Le Dessin du Bonhomme dans la Deficience Mentale," Rev. Psychol. Appl., 1952, 2, 279-303.

Guenzburg, H. C., "Maladjustment as expressed in Drawings by Subnormal Children," Amer. J. Ment. Def., 1952, 57, 9-23.

Guenzburg, H. C.. "Projection in Drawings. A Case study," Brit. J. Med. Psychol., 1955, 28, 72-81.

Guenzburg, H. C.. "Scope and Limitations of the Goodenough Drawing Test Method in Clinical Work with Mental Defectives," J. Clin. Psychol., 1955, 11, 8-15.

Guertin, W. H., and Sloan, W.. "A Comparison of H-T-P and Wechsler-Bellevue IQ's in Mental Defectives," J. Clin. Psychol., 1948, 4, 424-426.

Guillaume, P.. "La Comprehension des Dessins," J. Psychol. Norm. Path., 1953, 46, 278-298.

Guillaumin, J., "Quelques Faits et Quelques Reflexions a Propos de L'orientation des Profils Humains dans les Dessins D'enfants," Enfance, 1961, 1, 57-74.

Guillaumin, J.; Blanc, J.; Breuil,; and Voelckel, M.. "Une Methode poul L'etude Longitudinale de la Personnalite de L'enfant Telle Qu'elle S'exprime dans le Dessin et le Comportement," Enfance, 1959, 5, 495-508.

Gunderson, E. K., and Lehner, G. F.. "Height of Figure as a Diagnostic Variable in the DAP Test," Amer. Psychologist, 1950, 5, 472. (Abstract).

Gunderson, E. K., and Lehner, G. F.. "Reliability in a Projective Test (The Draw-A-Person)," Amer. Psychologist, 1949, 4, 387.

Gutman, Brigette. "An Investigation of the Applicability of the Human Figure Drawing in Predicting Improvement in Therapy," Dissert. Abstr., 1952, 12, 722.

Hammer, E. F.. "Critique of Swensen's 'Empirical Evaluations of Human Figure Drawings,'" J. Proj. Tech., 1959, 23, 30-32.

Hammer, E. F.. "Frustration-Aggression Hypothesis Extended to Socio-Racial Areas" Comparison of Negro and White Children's H-T-P's," Psychiat. Quart., 1953, 27, 597-607.

Hammer, E. F.. "Guide for Qualitative Research with the H-T-P," J. Genet. Psychol., 1954, 51, 41-60.

Hammer, E. F.. "Negro and White Children's Personality Adjustment as revealed by a Comparison of their Drawings (H-T-P)," J. Clin. Psychol., 1953, 9, 7-10.

Hammer, E. F.. Projective Drawing Interpretation. Springfield, Ill.: Charles C. Thomas, 1957.

Hammer, E. F.. "Relationship between Diagnosis of Psychosexual Pathology and the Sex of the First Drawn Person," J. Clin. Psychol., 1954, 10, 168-170.

Hammer, E. F.. The Clinical Application of Projective Drawings. Springfield, Ill.: Charles C. Thomas, 1958.

Hammer, E. F.. The H-T-P Clinical Research Manual. California: Western Psychological Services, 1955.

Hammer, E. F.. "The Role of the H-T-P in the Prognostic Battery," J. Clin. Psychol., 1953, 9, 371-374.

Hammer, E. F.. "Comparison of the Performances of Negro Children and Adolescents on two Tests of Intelligence, One an Emergency Scale," J. Genet. Psychol., 1954, 84, 85-93.

Hammer, E. F., and Piotrowski, Z. A.. "Hostility as a Factor in the Clinician's Personality as it Affects his Interpretation of Projective Drawings (H-T-P)," J. Proj. Tech., 1953 17, 210-216.

Hammer, M. and Kaplan, A. M.. "The Reliability of Sex of First Figure Drawn by Children," J. Clin. Psychol, 1964, 20, 251.

Hammer, M. and Kaplan, A. M.. "The Reliability of Size of Children's Drawings," J. Clin. Psychol. 1964, 20, 121.

Handler, L.; Levine, J.; and Potash, H.. "Suggestions for More Accurate Measurement of Some Figure Drawing Variables," J. Clin. Psychol., 1965, 21, 316-317.

Handler, L. and Reyher, J.. "The Effects of Stress on the Draw-A-Person Test," J. Consult. Psychol., 1964, 28, 259-64.

Hanvik, L. J.. "The Goodenough Test as a Measure of Intelligence in Child Psychiatric Patients," J. Clin. Psychol., 1953, 9, 71-72.

Hardy, M. W.. "The Interaction of Patients' Intelligence and Other Factors with Clinicians' Skill in the Diagnostic Use of Human Figure Drawings," Dissert. Abstr., 1960, 20, 4438.

Hare, A. P., and Hare, Rachel T.. "The Draw-A-Group Test," J. Genet. Psychol., 1956, 89, 51-59.

Harms, E.. "Awakening in Consciousness of Subconscious Collective Symbolism," J. Child Psychiat., 1948, 1, 208-238.

Harris, D. B.. "A Note on Some Ability Correlates of the Raven Progressive Matrices (1947) in the Kindergarten," J. Educ. Psychol., 1959, 50, 228-229.

Harris, D. B.. Children's Drawings as Measures of Intellectual Maturity: A Revision and Extension of the Goodenough Draw-A-Man Test. NYC: Harcourt, Brace, and World, 1964.

Harris, D. B.. "Intra-Individual vs. Inter-Individual Consistency in Children's Drawings of a Man," Amer. Psychologist, 1950, 5, 293-294. (Abstract).

Hauser, A.. "The Drawing as a Help in Child-Psychotherapy," Amer. J. Indiv. Psychol., 1956, 12, 53-58.

Haward, L. R.. "Extra-Cultural Differences in Drawings of the Human Figure by African Children," Ethnos, 1956, 3-4, 220-230.

Haworth, Mary R.. "Responses of Children to a Group Projective Film and to the Rorschach, CAT, Despert Fables and DAP," J. Proj. Tech., 1962, 26, 47-60.

Heller, A. D.. "The Draw-A-Person Test in Mental Defectives," Ment. Hlth. London, 1957, 16, 90-95.

Helman, Z.. "Confrontation du Rorschach, Corrobore par le Dessin, Avec L'examen Electroencephalographiq Chez un Enfant Epiletique Suivi Durant Cinq ans." Bull. Group. Franc. Rorschach, 1958, 10, 33-39.

Heymann, K., et al.. "Kind und Kunst," Psychol. Praxis, 1951, No. 10.

Hiler, E. W. and Nesvig, W.. "Evaluation of Criteria Used by Clinicians to Infer Pathology from Figure Drawings," J. Consult. Psychol., 1965, 29, 520, -529.

Hirota, Minoru. "Characteristics of Children's Paintings and an Attempt at Rating Them," Jap. J. Psychol., 1959, 29, 363-375.

Hofmann, H.. "Children's Drawings as an Indication of Readiness for First Grade," In Inter-Institutional Seminar in Child Development, Collected Papers: Inter-Institutional Seminar in Child Development, 1957, 33-47.

Holden, R. H.. "Changes in Body Image of Physically Handicapped Children Due to Summer Camp Experience," Merrill-Palmer Quart., 1962, 8, 19-26.

Holzberg, J. D., and Wexler, M.. "The Validity of Human Form Drawings as a Measure of Personality Deviation," J. Proj. Tech., 1950, 14, 343-361.

Honigmann, J. J., and Carrera, R. N.. "Cross-Cultural Use of Machover's Figure Drawing Test," Amer. Anthrop., 1957, 59, 650-654.

Horison, S.. "Elements Vecus dans Quelques Dessins D'enfants et D'adolescents," Enfance, 1950, 3, 288-298.

Hornowski, B.. "Interpretation Psychologique des Differences entre Sexes Dans le Dessin Due Bonhomme Chez les Jeunes Adolescents," Rev. Psychol. Appl., 1961, 11, 7-9.

Hoyt, T. E., and Baron, M. R.. "Anxiety Indices in Same-Sex Drawings of Psychiatric Patients with High and Low MAS Scores," J. Consult. Psychol., 1959, 23, 448-452.

Huang, I.. The Psychology of Children's Drawings. Shanghai: Commercial Press, 1938.

Hulse W. C.. "Childhood Conflict Expressed Through Family Drawings," J. Proj. Tech., 1952, 16, 66-79.

Hunkin, V.. "Validation of the Goodenough Draw-A-Man Test for African Children," J. Soc. Res., Pretoria, 1950, 1, 52-63.

Hurley, J. F.. "The H-T-P as a Ridigity-Flexibility Indicator. Paper read at South. Soc. Phil. and Psychol., Roanoke, Va., March, 1951.

Ignat'ev, E. I.. "Voprosy Psyihologicheskogo Analiza Protsessa Risovaniia," Izv. Akad. Pedag. Nauk RSFSR, 1950, 25, 71-116.

Ignat'ev, E. I. (Ed.). Psikhologiia Risunka I Zhivopise. Voprosy Psikhologicheskogo Issledovaniia Formirovaniia Odraza. Moscow: Akad. Pedag. Nauk RSFSR, 1954, 224.

Instituto de Neuro-Psiquiatria. "O Desenho da Figura Humana," Bol. Psicol. Apl., Recife, 1958, 3, 21-25.

Jacobi, Jolande. "Ich und Selbst in der Kinderzeichnung," Schweiz. Z. Psychol. Anwend., 1953, 12, 51-62.

Jahoda, G.. "Sex Defferences in Preferences for Shapes: A Cross-Cultural Replication," Brit. J. Psychol., 1956, 47, 126-132.

Jampolsky, P.. "Les Tests de Dessin en Psychologie Clinique," Annee Psychol., 1955, 119-127.

Jensen, B. T.. "Left-Right Orientation in Profile Drawing," Amer. J. Psychol., 1952, 65, 80-83.

Jensen, B. T.. "Reading Habits and Left-Right Orientation in Profile Drawings by Japanese Children," Amer. J. Psychol., 1952, 65, 306-307.

Johnson, A. P., "Ellerd, A. A.; and Lahey, T. H.. "The Goodenough Test as an Aid to Interpretation of Children's School Behavior," Amer. J. Ment. Def., 1950, 54, 516-520.

Johnson, O. G., and Wawrzasek, F.. "Psychologists' Judgments of Physical Handicap from H-T-P Drawings," J. Consult. Psychol., 1961, 25, 284-287.

Johnson, S. R., Gloye, E. E.. "A Critical Analysis of Psychological Treatment of Children's Drawings and Paintings," J. Aesthet. Art Crit., 1958, 17, 242-250.

Jolles, I.. A Catalogue for the Qualitative Interpretation of the H-T-P Manual. Beverly Hills, California: Western Psychological Services, 1952.

Jolles, I.. "A Study of the Validaity of Some Hypotheses for the Qualitative Interpretation of the H-T-P for Children of Elementary School Age: I. Sexual Identification," J. Clin. Psychol., 1952, 8, 113-118.

Jolles, I.. "A Study of the Validity of Some Hypotheses for the Qualitative Interpretation of the H-T-P for Children of Elementary School Age: II. The 'Phallic Tree' as an Indicator of Psychosexual Conflict," J. Clin. Psychol., 1952, 8, 245-255.

Jolles, I.. "Some Advances in Interpretation of the Chromatic Phase of the H-T-P," J. Clin. Psychol., 1957, 13, 81-83.

Jolles, I., and Beck H. S.. "A Study of the Validity of Some Hypotheses for the Qualitative Interpretation of the H-T-P for Children of Elementary School Age: III. Horizontal Placement," J. Clin. Psychol., 1953, 9, 161-164.

Jolles, I., and Beck, H. S.. "A Study of the Validity of Some Hypotheses for the Qualitative Interpretation of the H-T-P for Children of Elementary School Age: IV. Vertical Placement," J. Clin. Psychol., 1953, 9, 164-167.

Jones, Audrey M.. "A Comparative Study of the Vehicle-Referent Relationship in the Representation of 2 non-verbal Media by Groups Differing in their Habitual Orientations," Dissert. Abstr., 1963, 23, 3466-7.

Jones, L. W. and Thomas, C. B.. "Studies on Figure Drawings," Psychiat. Quart. Suppl., 1961, 35, 212-261.

Judson, A. J., and MacCasland, Barbara W.. "A Note on the Influence of the Season on Tree Drawings," J. Clin. Psychol., 1960, 16, 171-173.

Just-Kery, Hedvig. "A Gyermekek Irasos-Rejzos Abrazolasainak Fejlodesi Szakaszai," Magyar. Pszichol. Szle., 1960, 17, 155-163.

Kaartinen, Antti. "Drawings of Girls and Boys as Indicators of the Differentiation of Sex Roles in School Age," Acta. Acad. Paedag. Jyvaskylaensis, 1960, 20, 25-33.

Kaartinen, Antti. "Relations Between Drawing Variables Dependent on Sex and Personality Traits," Acta Acad. Paedag. Jyvaskylaensis, 1960, 20, 34-43.

Kamal, Sharifa. "Analysis of Children's Drawings," Proc. Sixth Pakistan Sci. Conference, Pt. III, Karchi, 1954. 267. (Abstract).

Karmi, H.. "Tsiyerey Y'ladim V'reka Hayehem," Urim, 1954-1955, 12, 363-365.

Kates, S. L., and Harrington, R. W.. "Authority Figure Perspective and Aggression in Delinquents," J. Genet. Psychol., 1952, 80, 193-210.

Katz, J.. "A New Figure Drawing Technique for Diagnosis and Evaluation," Psychoanal. Psychoanal. Rev., 1960, 47, 103-105.

Katz, Rosa. "Ein Beitrag zur Personlichkeitsund Milieudiagnose des Kindes," In Ekman, et al., Essays in Psychology. David Katz, 161-179.

Kellmer Pringle, M. L., and Pickup, K. T., "The Reliability and Validity of the Goodenough Draw-A-Man Test: A Pilot Longitudinal Study," Brit. J. Educ. Psychol. 1963, 33, 297-306.

Kellogg, Rhoda. What Children Scribble and Why. Palo Alto, California: National Press, 1959.

Kelly, E. L.. "Theory and Techniques of Assessment," In C. P. Stone and Q. McNemar (Eds.), Annual Review of Psychology. Vol. 5. California: Annual Reviews, 1954, 281-310.

Kennedy, W. A. and Lindner, R. A.. " A Normative Study of the Goodenough Draw-A-Man Test on Southeastern Negro Elementary School Children," Child Develpm., 1964, 35, 33-62.

Keyes, E. J., and Laffal, J.. "The Use of the Graphomotor Projective Technique to Discriminate Between Failure and Success Reactions in a Level of Aspiration Situation," J. Clin. Psychol., 1953, 9, 69-71.

King, F. W.. "The Use of Drawings of the Human Figure as an Adjunct in Psychotherapy," J. Clin. Psychol., 1954, 10, 65-69.

Kinget, G. Marian. The Drawing-Completion Test; A Projective Technique for the Investigation of Personality. New York: Grune and Stratton, 1952.

Kirkham, Sandra. The Identification of Organicity using the H-T-P Test on an Institutionalized Population. Unpublished master's thesis, Richmond Professional Inst., 1956.

Kitinoja, Phyllis. "Creative Art and the Deaf Child," Amer. Ann. Deaf., 1953, 98, 312-317.

Knopf, I. J., and Richards, T. J.. "The Child's Differentiation of Six as Reflected in Drawings of the Human Figure," J. Genet. Psychol., 1952, 81, 99-112.

Koch, C.. "Le Test De L'arbre," In Franziska Baumgarten, La Psychotechnique Dans le Monde Moderne. 221-222.

Koch, C. The Tree Test; The Tree-Drawing Test as an Aid in Psychodiagnosis. New York: Grune and Stratton, 1952.

Koch, K.. Der Baum-Test. Bern: Hans Huber, 1949.

Koh, Soon D.. "On the Relationship Between the Goodenough Scale and the Thorndike Scale in Drawing of a Man," Stud. Psychol. Ewha Woman's Univ., 1954, 1, 54-61.

Koppitz, Elizabeth M.. "A Comparison of Pencil and Crayon Drawings of Young Children;" J. Clin. Psychol., 1965, 21, 191-194.

Koppitz, Elizabeth M., Sullivan, J.; Blyth, D. D.; and Shelton, J.. "Prediction of First Grade School Achievement with the Bender-Gestalt Test and Human Figure Drawings," J. Clin. Psychol., 1959, 15, 164-168.

Kuhlmann, F., and Anderson, Rose G.. The Kuhlmann-Anderson Intelligence Tests: Hanbook. (6th ed.) Princeton, N. J.: Personnel Press, 1952.

Kutash, S. B.. "A New Personality Test: The Graphomotor Projection Technique," Trans., New York Acad. Sci., 1952, 15, 44-46.

Lachmann, F. M; Bailey, M. A.; and Berrick, M.E.. "The Relationship between Manifest Anxiety and Clinicians' Evaluations of Projective Test Responses," J. Clin. Psychol., 1961, 17, 11-13.

Lair, C. V., and Trapp, E. P.. "Performance Decrement on the H-T-P Test as a Function of Adjustment Level," J. Clin. Psychol., 1960, 16, 431.

Laird, J. T.. "A Comparison of Male Normals, Psychiatric Patients & Alcoholics for Sex Drawn First," J. Clin. Psychol. 1962, 18, 302.

Kakin, M.. "Affective Tone in Human Figure Drawings by Institutionalized Aged and by Normal Children," *J. Amer. Geriat*. Soc., 1958, 6, 495-500.

Lakin, M.. "Certain Formal Characteristics of Human Figure Drawings by Institutionalized Aged and by Normal Children," *J. Consult. Psychol.*, 1956, 20, 471-474.

Lampard, Marie T.. "The Art Work of Deaf Children," *Amer. Ann. Deaf*, 1960, 105, 419-423.

Landisburg, Selma, "A Personality Study of Institutionalized Epileptics," *Amer. J. Ment. Def.*, 1947, 52, 16-22.

Landisburg, Selma. "A Study of the H-T-P Test," *Train. Sch. Bull.*, 1947, 44, 140-152.

Landisburg, Selma. "Relationship of the Rorschach to the H-T-P," *J. Clin. Psychol.*, 1953, 9, 179-183.

Landmark, Margrete, and Grinde, Turid. "Undersokelse av en Gruppe Normale Barn med Forskjellige Intelligensprover," *Nord. Psykol.*, 1962, 14, 171-185.

Lantz, Beatrice. *Easel Age Scale.* Manual. Los Angeles: California Test Bureau, 1955.

Lark-Horovitz, Betty, and Norton, J.. "Children's Art Abilities: The Interrelations and Factoral Structure of 10 Characteristics," *Child Develpm.*, 1960, 31, 453-462.

Latif, K. Z.. "Colour, Line and Space; Integrative Dynamic in the Study of Young Children," *Egypt. J. Psychol.*, 1949-1950, 5, 161-184.

Lawrence, S. B.. "A Study of a Technique Used to Evaluate Achromatic and Chromatic Human Figure Drawings," *Dissert. Abstr.*, 1963, 24, 1700. (Abstract).

Lawton, M. J. and Sechrest, L.. "Figure Drawings by Young Boys from Father-Present and Father-Absent Homes," *J. Clin. Psychol.* 1962, 18, 304-5.

Leach, Joy. *An Analysis of the Use of Space Constriction in Drawings of the House on H-T-P Test by Children by Means of a Space Constriction Index*. Unpublished study, School of Clinical and Applied Psychol., Richmond Professional Inst., 1953.

Lehner, G. F.. "Age Relationships on the DAP Test," J. Pers., 1948, 17, 199-209.

Lehner, G. F., and Silver, H.. "Some Relations between Own Age and Ages Assigned on the Draw-A-Person Test," Amer. Psychologist, 1948, 3, 341.

Le Men, J.. "Presentation D'une Epreuve de Dessin," Rev. Psychol. Appl., 1953, 3, 97-101

Lerner, E.; Murphy, L.; Stone, L. J.; Beyer, E.; and Brown, E.. "Methods for the Study of Personality in Young Children," Monogr. Soc. Res. Child. Develpm., 1941, 6, No. 4. Washington, D. C.: National Research Council.

Leroy, Alica. "Representations de la Perspective dans les Dessins D'enfants," Enfance, 1951, 4, 286-307.

Lessing, Elise E.. "A Note on the Significance of Discrepancies between Goodenough and Binet IQ Scores," J. Consult. Psychol., 1961, 25, 456-457.

Levine, A.; Abramson, H. A.; Kaufman, M. R.; and Markham, S.. "Lysergic Acid Diethylamide (LSD-25): XVI. The Effect on Intellectual Functioning as Measured by the Wechsler-Bellevue Intelligence Scale," J. Psychol., 1955, 40, 385-395.

Levine, A.; Abramson, H. A.; Kaufman, M. R.; Markham, S.; and Kornetsky, C.. "Lysergic Acid Diethylamide (LSD-25): XIV. Effect on Personality as Observed in Psychological Tests," J. Psychol., 1955, 40, 351-366.

Levine, M., and Galanter, E.. "A Note on the 'Tree and Trauma' Interpretation in the H-T-P," J. Consult. Psychol., 1953, 17, 74-75.

Levinson, B. M.. "A Comparison of the Performance of Bilingual and Monolingual Native Born Jewish Preschool Children of Traditional Parentage on Four Intelligence Tests," J. Clin. Psycol., 1959, 15, 74-76.

Levy, B. I.; Lomax, J. V., Jr.; and Minsky, Raphael. "An Underlying Variable in the Clinical Evaluation of Drawings of Human Figures," J. Consult. Psychol. 1963, 27, 508-12.

Levy, L. H.. "Sexual Symbolism: A Validity Study," J. Consult. Psychol., 1954, 18, 43-46.

Levy, S.. "Figure Drawing as a Projective Technique," In L. E. Abt & L. Bellak, Projective Psychology. New York: Grove Press, 1959, 257-297.

Lewinsohn, P. M.. "Relationship between Height of Figure Drawings and Depression in Psychiatric Patients," J. Consult. Psychol. 1964, 28, 380-1.

Lewinsohn, P. M. and May, J. G., Jr.. "A Technique for the Judgment of Emotion from Figure Drawings," J. Proj. Tech. 1963, 27, 79-85.

Lewis, Hilda P.. "Spatial Representation in Drawing as a Correlate of Development and a Basis for Picture Preference," J. Genet. Psychol. 1963, 102, 95-107.

Lindner, R. S.. "The Goodenough Draw-A-Man Test: Its Relationship to Intelligence, Achievement, & Cultural Variables of Negro Elementary School Children in the Southeast United States," Dissert. Abstr. 1962, 23, 703-4.

Lorand, Rhonda L.. "Family Drawings and Adjustment," Dissert. Abstr., 1957, 17, 1596.

Lurcat, Liliane. "Etude des Facteurs Kinesthesiques dans les Premiers Traces Enfantins (Study of Kinesthetic Factors in the 1st Childish Drawings)," Psychol. Franc., 1962, 7, 301-11.

Lyons, J.. "The Scar on the H-T-P Tree," J. Clin. Psychol., 1955, 11, 267-270.

Machover, Karen. "Human Figure Drawings of Children," J. Proj. Tech., 1953, 17, 85-91.

Machover, Karen. Personality Projection in the Drawing of the Human Figure. Springfield, Ill.: Charles C. Thomas, 1949.

Marcus, J.. "Temporary Vicissitudes in Children's Drawings: Their Importance in Diagnostic Evaluations (a brief communication)," The Israel Annals of Psychiat. and Related Disciplines, 1963, 1, 217-24.

Marion, D.. "O Desenho Infantil e a Sexualidade," Bol. Inst. Int. Amer. Prot. Infanc., Montevideo, 1956, 30, 10-18.

Markham, Sylvia.. "An Item Analysis of Children's Drawings of a House," J. Clin. Psychol., 1954, 10, 185-187.

Martin, A. W., and Weir, A. J.. "A Comparative Study of the Drawings Made by Various Clinical Groups," J. Ment. Sci., 1951, 97, 532-544.

Martin, W. E.. "Identifying the Insecure Child: III. The Use of Children's Drawings," J. Genet. Psychol., 1955, 86, 327-338.

Matejcek, Z.. "Moznost Vyuziti Kresebneho Projevu Ditete v Psychologicke Praxi," Ceskoslovenka Psychol., 1957, 1, 53-60.

Matheny, K. B.. "An Assessment of the Usefulness of the Wartegg Drawing Completion Test as a Measurement of Intelligence Among Children," Dissert. Abstr., 1063, 24, 1240-1.

Mathieu, Michel. Le Test•de L'Arbre en Psycho-Pathologie. Lyon, France: Imprimerie BOSC Freres, 1961.

Matsuoka, T.. "CST no PRC ni Yoru Jinkaku no Shindan." Jap. J. Psychol., 1954, 25, 83-92.

Mattil, E. L.. "A Study to Determine the Relationship between the Creative Products of Children, Age 11-14, and their Adjustment," In Pennsylvania State Univ., Abstr. of Dissert., 1953-1954, 16, 327-332.

Mauge, G.. "Representations du Mouvement et Schematisation," J. Psychol. Norm. Path., 1955, 52, 243-252.

McGuirl, D., and Moss, C. S.. "An Indirect Validation Study of the Draw-A-Person Test Through the Cartoons of William Steig," J. Proj. Tech., 1962, 26, 88-95.

McHugh, Ann F.. "Age Associations in Children's Figure Drawings," J. Clin. Psychol., 1965, 21, 429-431.

McHugh, Ann F.. "H-T-P Proportion and Perspective in Negro, Puerto Rican and White Children," J. Clin. Psychol. 1963, 19, 312-313.

McHugh, Ann F.. "Sexual Identification, Size, and Associations in Children's Figure Drawings," J. Clin. Psychol. 1963, 19, 381-2.

McIntosh, J.. "An Inquiry into the Use of Children's Drawings as a Means of Psychoanalysis," Brit. J. Educ. Psycho., 1939, 9.

Mehr, Helen M.. "The Application of Psychological Tests and Methods to Schizophrenia in Children," Nerv. Child. 1952, 10, 63-93.

Meili-Dworetzki, Gertrud. "Das Bild des Menschen in der Vorstellung und Darstellung des Kleinkindes," Beih. Schweiz. Z. Psychol. Anwend., 1957, 30, 5-136.

Merguet, Luise. "Der Goodenough-Test in der Erziehungsberatung," Prax. Kinderpsychol. Kinderpsychiat., 1958, 7, 161-166.

Michal-Smith, H.. "The Identification of Pathological Cerebral Function through the H-T-P Technique," J. Clin. Psychol., 1953, 9, 293-295.

Minkowska, --. (Mme.). "Divers Courants dans L'interpretation des Dessins D'enfants," J. Psychol. Norm. Path., 1950, 43, 412. (Abstract).

Mitchell, Anna C.. "A New Maximum CA for the Draw-A-Man Test," J. Consult. Psychol., 1959, 23, 555-557.

Moll, R. P.. "Further Evidence of Seasonal Influences on Tree Drawings," J. Clin. Psychol., 1962, 18, 109.

Morgenstern, Frances B.. "The Effect of an Experimental Situation Involving Failure and Disparagment on Certain Features of Children's Figure Drawings," Dissert. Abstr., 1960, 20, 3403-3404.

Morino, Abbele F.. "Il Disegno Infantile Come Manifestazione di Problemi Della Personalita," Boll. Psicol. Appl., 1960, 37-39, 71-121.

Morris, W. W.. "Methodological and Normative Considerations in the use of Drawings of Human Figures as a Projective Method," Amer. Psychologist, 1949, 4, 267. (Abstract).

Morris, W. W.. "Ontogenetic Changes in Adolescence Reflected by the Drawing-Human-Figures Technique," Amer. J. Orthopsychiat., 1955, 25, 720-728.

Muhle, Gunther. Entwicklungspsyologie des Zeichnerischen Gestaltens. Munich, Germany: J. A. Barth, 1955.

Munro, T.. "Suggestion and Symbolism in the Arts," J. Aesthet., 1956, 15, 152-180.

Munro,--.. "The Psychology of Art: Past, Present, Future," J. Aesthet. Art Crit., 1963, 21, 263-82.

Murphy, L. B.. "Art Techniques in Studying Child Personality," Rorschach Res. Exch., 1949, 13, 320-324.

Murray, D. C., and Deabler, H. L.. "Drawings, Diagnoses, and the Children's Learning Curve," J. Proj. Tech., 1958, 22, 415-420.

Naar, R.. "An Attempt to Differentiate Delinquents on the Basis of Projective Drawings," J. Criminal Law, Criminology, and Police Science, 1964, 55, 107-110.

Naumburg, Margaret. "Art as Symbolic Speech," J. Aesthet., 1955, 13, 435-450.

Naville, P.. "Correction D'un Test de Dessin par Trois Correcteurs Differents," J. Psychol. Norm. Path., 1948, 41, 241-259.

Naville, P.. "Elements D'un Bibliographiq Critique Relative au Graphisme Enfantin Jusqu'en 1949," Enfance, 1950, 3, 310-403.

Nel, B. F., and Esterhuysen, C. H.. The Drawing of the Human Figure as a "Projective" Technique. Pretoria, S. Africa: Univ. Pretoria, 1958.

Noller, A. A., and Weider, A.. "A Normative Study of Human Figure Drawings for Children," Amer. Psychologist, 1950, 5, 319-320.

Oak, Laura S.. "Motor Difficulties of Left-Handed Children in Learning to Write and To Draw. Unpublished doctor's dissertation, Yale Univ., 1930.

Ochs, Eleanore. "Changes in Goodenough Drawings Associated with Changes in Social Adjustment," J. Clin. Psychol., 1950, 3, 282-284.

Orgel, Rita G.. "The Relationship of the H-T-P to a Sociometric Evaluation of a Group of Primary Grade School Children in Determining the Degree of Social Acceptance," J. Clin. Psychol., 1959, 15, 222-223.

Osterrieth, P.. "Le Dessin le Diagnostic de la Personnalite en Psychologie Clinique," *Bull. Assoc. Int. Psychol. Appl.*, 1957, 6, 4-27.

Osterrieth, P.. "Remarque sur L'interpretation des Tests de Dessin en Psychologie Clinique," *Rev. Psychol. Appl.*, 1953, 3, 338-343.

Ostlyngen, E.. "Problemet med den Ulike Fordeling av Hoyreog Venstrevendte Tegninger," In *Nord. Psykologmote Forhandl.*, 101. (Abstract).

Pal, S. K.. "Developing Artistic Abilities in Children," *Shiksha*, 1955, 8, 113-117.

Papavassiliou, J. T.. "Les Dessins D'enfants Consideres a la Lumiere de la Psychologie Comparee," *Z. Kinderpsychiat.*, 1951, 18, 65-87.

Papavassiliou, I.. "Notes sur L'application du Test du Bonhomme en Grece," *Z. Kinderpsychiat.*, 1950, 16, 129-133.

Papavassiliou, I.. "The Validity of the Goodenough DAM Test in Greece," *J. Educ. Psychol.*, 1853, 44, 244-248.

Park, Sang-in. "Goodenough's Draw-A-Man Test Standardized for Seoul City Children," *Ewha Woman's Univ. Commem. Essays*, 1956, 153-182.

Parks, Robbie Jo and Butler, J. R.. "Projective Drawing: Rater Reliability and Influence of Art Instruction," Paper read at 10th Ann. Meeting, South-western Psychol. Assoc., April 4-6, 1963, Dallas, Tex., *Amer. Psychol.*, 1963, 18, 607.

Pauker, J. D.. "An Easily Constructed Scale for Rating Line Darkness of Drawings," *J. Clin. Psychol.*, 1964, 20, 122.

Payne, J. T.. "Comments on the Analysis of Chromatic Drawings," *J. Clin. Psychol.*, 1949, 5, 75-76.

Payne, J. T.. *Observations on the Use of Color With the H-T-P.* North Carolina State Hosp., Morganton, North Carolina, 1950. (Mimeographed).

Payne, J. T.. *The Drawing Process and the Hue-Space Unit.* Unpublished Manuscript.

Pennington, L. W., Jr.. Developmental Patterns in Drawings of a Person by Children From Age 4½ to 15. Unpublished master's thesis, Richmond Professional Inst., 1954.

Pennington, L. W., Jr.. Space Constriction in Drawings of a Person on the H-T-P Test by Children from 4 Years 6 Months to 14 Years 5 Months of Age. Unpublished Study, School of Clinical and Applied Psychol., Richmond Professional Inst., 1953.

Perkinson, Patricia R.. Shading on the H-T-P Drawings and its Relationship with Anxiety and Intelligence. Unpublished master's thesis, Richmond Professional Inst., 1956.

Pertejo, J.. "La Interpretacion del Psicodiagnostice de Rorschach y los Dibujos Infantiles Segun F. Minkowska: Su Obra," Rev. Psicol. Gen. Apl., Madrid, 1955, 10, 25-47.

Phatak, Pramila. "A Study of the Revised Goodenough Scale with Reference to Artistic and Non-Artistic Drawings," J. Voc. Educ. Guid., Baroda, 1960, 7, 35-40.

Phatak, Pramila. "Draw-A-Man Test: Survey of Investigations," Indian J. Psychol., 1956, 31, 31-40.

Phatak, Pramila. "Comparative Study of Revised Draw-A-Man Scale (Harris) and Phatak Draw-A-Man Scale for Indian Children," Psychol. Stud., Mysore, 1961, 6, 12-7.

Phatak, Pramila. "Exploratory Study of Creativity and Intelligence and Scholastic Achievement," Psychol. Stud., Mysore, 1962, 7, 1-9.

Pikunas, J. and Carberry, H.. "Standardization of the Graphoscopic Scale: The Content of Children's Drawing,"J. Clin. Psychol., 1961, 17, 297-301.

Pollock, Miriam S.. "Releasing the True Intellectual Capacities of a Young Aphasic Child Through the Unfettering of Emotional Bonds," Amer. J. Ment. Def., 1959, 63, 554-966.

Popplestone, J. A., "Clinical Status and the Draw-A-Man Test: Congruence and Divergence," Percept. Mot. Skills, 1959, 9, 131-3.

Popplestone, J. A.. "Male Human Figure Drawing in Normal and Emotionally Disturbed Children," Dissert. Abstr., 1958, 19, 573-574.

Ponzo, E.. "An Experimental Variation of the Draw-A-Person Technique," J. Proj. Tech., 1957, 21, 278-285.

Prater, G. F. A Comparison of the Head and Body Size in the Drawing of the Human Figure by Hemiplegic and Non-Hemiplegic Persons. Unpublished master's thesis, Univ. Kentucky, 1950.

Precker, J. A.. "Painting and Drawing in Personality Assessment," J. Proj. Tech., 1950, 14, 262-286.

Prudhommeau, M.. "Dessin et Ecriture Chez L'enfant," Enfance, 1948, 1, 117-125.

Rabin, A. I., and Haworth, Mary R. (Eds.). Projective Techniques with Children. New York: Grune & Stratton, 1960.

Rabin, A. I., and Limuaco, Josefina A.. "Sexual Differentiation of American and Filipino Children as Reflected in the Draw-A-Person Test," J. Soc. Psychol., 1959, 50, 207-211.

Ratson, Hava. "Al Hamaba Beshirbutehem Shel Yeladim Ketanim," Ofakim, 1961, 15, 73-81.

Raven, J. C.. "Some Problems in Projection Encountered in Drawing," Quart. Bull. Brit. Psychol. Soc., 1951, 2, 58-60.

Rawn, M. L.. "Degree of Disturbance in Figure Drawings as Related to Mode of Approach to Problem Solving," J. Genet. Psychol., 1957, 91, 191-196.

Reagan, B. V., Jr.. "The H-T-P Test: A Reading Aid," In Claremont College Reading Conference, Fourteenth Yearbook, 1949. Claremont, California: Claremont Conference Curriculum Laboratory, 1949. 154-156.

Reichenberg-Hackett, W.. "Changes in Goodenough Drawings after a Gratifying Experience," Amer. J. Orthopsychiat., 1953, 23, 501-517.

Reichenberg-Hackett, W.. "Influence of Nursery Group Experience on Children's Drawings," Psychol. Reports, 1964, 14, 433-4.

Rennert, H.. "Eigengesetze des Bilderrerischen Ausdrucks bei Schizoprene (Characteristics of picture-drawing by schizophrenics)," Psychiat. Neurol. Med. Psychol, Leipzig, 1963, 15, 282-288.

Repucci, L. C.. "*A Quantitative Scoring System for Children's Drawings of a House in the H-T-P Test*." Unpublished master's thesis, Richmond Professional Inst., 1954.

Rey, A.. "Les Conditions Sensori-Motrices du Dessin," *Schweiz. Z. Psychol. Anwend*, 1950, 9, 381-392.

Reznikoff, M., and Reznikoff, Helga R.. "The Family Drawing Test: A Comparative Study of Children's Drawings," *J. Clin. Psychol.*, 1956, 12, 167-169.

Reznikoff, M., and Tomblen, D.. "The Use of Human Figure Drawings in the Diagnosis of Organic Pathology," *J. Consult. Psychol.*, 1956, 20, 467-470.

Richey, Marjorie H.. "Qualitative Superiority of the 'Self' Figure in Children's Drawings," *J. Clin. Psychol.*, 1965, 21, 59-61.

Richey, Marjorie H., and Spotts, J. V.. "The Relationship of Popularity to Performance on the Goodenough Draw-A-Man Test," *J. Consult. Psychol.* 1959, 23, 147-150.

Reiger, Rebecca E.. *Differences in Projective Drawing Test Results between Patients Diagnosed as Schizophrenic and as Organic*. Master's Thesis, Catholic Univer., 1952.

Robben, Camille S.. *A Study of the Validity of Some Hypotheses for the Qualitative Interpretation of the H-T-P Test for Children of Elementary School Age*: *Vertical Measurement of Space Constriction of the Tree*. Unpublished study, School of Clinical and Applied Psychol., Richmond Professional Inst., 1953.

Rohrs, F. W., and Haworth, Mary R.. "The 1960 Stanford-Binet, WISC, and Goodenough Tests with Mentally Retarded Children," *Amer. J. Ment. Def.*, 1962, 66, 853-859.

Rosenzweig, S.. "Norms and the Individual in the Psychologist's Perspective," In M. L. Reymert, *Feelings and Emotions.* 327-335.

Royal, E. Ann. *A Comparative Study of the Quantitative Aspects of the Achromatic and Chromatic H-T-P Test*. Unpublished master's thesis, Richmond Professional Inst., 1957.

Rubin, H.. "A Quantitative Study of the H-T-P and its Relationship to the Wechsler-Bellevue Scale," J. Clin. Psychol., 1954, 10, 35-38.

Sacher, H.. "Teilechte und Teilunechte Benfunde in Projektiven Gestaltungstests," Z. Exp. Angewand. Psychol., 1954, 2, 358-382.

Salber, W.. "Formen Zeichnerischer Entwichlung," Z. Diagnost. Psychol., 1958, 6, 48-64.

Samson, H.. Drawing as a Technique of Investigation and Therapy with Children. Doctor's Dissertation, Catholic Univer., 1952.

Sarason, S. B.. Psychological Problems in Mental Deficiency. (2nd Ed.) New York: Harper, 1953.

Sastre, P. O.. "Tecnica para la Exploracion del 'Lenguaje Grafico.'" Rev. Psyicol. Gen. Apl., Madrid, 1959, 14, 151-154.

Schachter, M., and Cotte, S.. "Etude Psychodiagnostique D'un Nouvear Groupe de Triplets," Acta Genet. Med. Gemellolog., 1959, 8, 347-360.

Schaeffer, R. W.. "Clinical Psychologists' Ability to use the Draw-A-Person Test as an Indicator of Personality Adjustment," J. Consult. Psychol., 1964, 28, 383.

Schilder, P.. "The Child and the Symbol," Scientia, Melano, 64, 1938.

Schmidt, L. D., and McGowan J. F.. "The Differentiation of Human Figure Drawings," J. Consult. Psychol., 1959, 23, 129-133.

Schneider, E.. "Kinderzeichnungen und Korpenschema," Schweiz. Z. Psychol. Anwend., 1948, 7, 165-171.

Schoch-Bodmer, Helen. "Zur Problemanalyse von Kinderzeichnungen mit Luschertest-Farben," Psychol. Berater Gesunde Prakt. Lebebsgestalt., 1952, 4, 503-508.

Schoenfeldt, Betti K.. "Rabiscos-Desenhos e Escrita da Crianca (Scribbles, Writings and Drawings of Young Children)," Rev. Psicol. Norm. Patologica, 1963, 9, 89-100.

Schonfeld, W. A.. "Body-Image Disturbances in Adolescents with Inappropriate Sexual Development," Amer. J. Orthopsychiat., 1964, 34, 493-502.

Schorer, C. E.. "Muscular Dystrophy and the Mind," Psychosom. Med., 1964, 26, 5-13.

Schwartz, A. A.. "Some Interrelationships Among Four Tests Comprising a Test Battery: A Comparative Study," J. Proj. Tech., 1950, 14, 153-172.

Sechrest, L. and Wallace, J.. "Figure Drawings and Naturally Occurring Events: Elimination of the Expansive Euphoria Hypothesis," J. Educ. Psychol., 1964, 55, 42-44.

Sehringer, W.. "Die Entwicklung der Diagnostik der Kinderzeichnung im Uberblick," Diagnostica, 1960, 6, 18-30.

Shanan, J.. "Intraindividual Response Variability in Figure Drawing Tasks," J. Proj. Tech., 1962, 26, 105-111.

Siegel, J. H.. "A Preliminary Study of the Validity of the House-Tree-Person Test with Children. Unpublished master's thesis, Southern Methodist Univer., 1949.

Siguan, M.. "Las Pruebas Proyectivas y el Conocimiento de la Personalidad Individual," Monogr. Cienc. Mod., 1952, 38, 116.

Silver, A. A.. "Diagnostic Value of Three Drawing Tests for Children," J. Pediat., 1950, 37, 129-143.

Silverstein, A. B., and Robinson, H. A.. "The Representation of Orthopedic Disability in Children's Figure Drawings," J. Consult. Psychol., 1956, 20, 333-341.

Silverstein, A. B., and Robinson, H. A.. "The Representation of Physique in Children's Figure Drawings," J. Consult. Psychol., 1961, 25, 146-148.

Singer, H.. Validity of the Projection of Sexuality in Drawing the Human Figure. Master's thesis, Western Reserve Univ., 1952,

Sloan, W.. "A Critical Review of H-T-P Validation Studies," J. Clin. Psychol., 1954, 10, 143-148.

Sloan, W., and Guertin, W. H.. "A Comparison of H-T-P and W-B IQ's in Mental Defectives," J. Clin. Psychol., 1948, 4, 424-426.

Smith, W. D., and Lebe, Dell.. "Some Changing Aspects of the Self-Concept of Pubescent Males," J. Genet. Psychol., 1956, 88, 61-75.

Smykal, A., and Thorne, F. C.. "Etiological Studies of Psychopathic Personality: II. Asocial Type," J. Clin. Psychol., 1951, 7, 299-316.

Speier, Anny. "Caracteristicas del Dibujo del Nino Psicotico y su Significado Simbolico," Acta Neuro-Psiquiat. Argent., 1961, 7, 202-204.

Sprung, S. R.. "The Effect of Direction and Nondirection of Children's Drawings," Dissert. Abstr., 1953, 13, 725.

Starr, Anna S.. "The Rutgers Drawing Test," Train. Sch. Bull., 1952, 49, 45-64.

Steiger, Ruth. "Vom Kunsterlischen Gestalten bei der Behandlung Kinderlicher Neurosen," Prax. Kinderpsychol. Kinderpsychiat., 1954, 3, 113-116.

Stern, E. (Ed.). Handbuch der Klinschen Psychologie. Band 1. Die Tests in der Klinischen Psychologie. 2. Halband. Zuich: Rascher, 1955.

Stewart, L. H.. "The Expression of Personality in Drawings and Painting," Genet. Psychol. Monogr., 1955, 51, 45-103.

Stoltz, R. E., and Coltharp. Frances C.. "Clinical Judgments and the Draw-A-Person Test," J. Consult. Psychol., 1961, 25, 43-45.

Stone, Patricia A., and Ansbacher, H. L.. "Social Interest and Performance on the Goodenough-Harris Draw-A-Man Test," J. Indiv. Psychol., 1965, 21, 178-186.

Stora, Renee. "Etude de Personalite et de Psychologie Differentielle a L'aide du Test D'arbres," Enfance, 1955, 8, 485-508.

Stora, Renee. "Influence du Milieu sur les Individus Decelee par le Test D'Arbres," Enfance, 1952, 5, 357-372.

Stora, Renee. "L'arbre de Koch; Test Original et Test Modifie," *Enfance*, 1948, 1, 327-244.

Stotijn-Egge, Solveig. *Onderzoek Over de Ontwikkeling van Het Tekenen Bij Laagstaande Oligophrenen*. Leiden: "Luctor et Emergo," 1952.

Strumpfer, D. D.. "A Study of Some Communicable Measures for the Evaluation of Human Figure Drawings," *Dissert. Abstr.*, 1960, 20, 2910-2911.

Strumpfer, D. J., and Nichols, R. C.. "A Study of some Communicable Measures for the Evaluation of Human Figure Drawings," *J. Proj. Tech.*, 1962, 26, 342-353.

Strumpfer, D. J. W.. "The Relationship of Draw-A-Person Variables to Age and Chronicity in Psychotic Groups," *J. Clin. Psychol.*, 1963, 19, 208-210.

Suessmilch, F. L.. "A Long-Term Maladjustment Culminating in Catatonic Episodes During Adolescence," *J. Proj. Tech.*, 1951, 15, 461-480.

Sullivan, Anne, and Bondy, C.. "Psychologishe Tests in den Vereinigten Staaten von Amerika," *Sammlung*, 1948. 3, 408-424.

Sweeney, N. R., "Reliability of Experienced and Inexperienced Scorers on Goodenough-Draw-A-Man Test," *J. Psychol.*, 1964, 57, 281-7.

Swensen, C. H.. "Empirical Evaluations of Human Figure Drawings," *Psychol. Bull.*, 1957, 54, 431-466.

Swensen, C. H.. "Sexual Differentiation on the DAP Test," *J. Clin. Psychol.*, 1955, 11, 37-41.

Swensen, C. H., and Newton, K. R.. "The Development of Sexual Differentiation on the Draw-A-Person Test," *J. Clin. Psychol.*, 1955, 11, 417-419.

Tait, C. D., Jr., and Ascher, R. C.. "Inside-Of-The-Body Test," A Preliminary report. *Psychosom. Med.*, 1955, 17, 139-148.

Taylor, I. A.; Rosenthal, D.; and Snyder, S.. "Variability in Schizophrenia," *Arch. Gen. Psychiat.*, 1963, 8, 163-8.

Thomas, R. M. and Sjah, A.. "The Draw-A-Man Test in Indonesia," *J. Educ. Psychol.*, 1961, 52, 232-5.

Thompson, J. M. and Finley, Carmen J.. "The Relationship between the Goodenough Draw-A-Man Test and the Stanford-Binet Form L-M in Children Referred for School Guidance Services," *Calif. J. Educ. Res.*, 1963, 14, 19-22.

Thurner, F. K.. "Suizid und Testzeichnung," *Z. Exp. Angewand. Psychol.*, 1956, 3, 439-457.

Tisserand-Perrier, M., and Blaizot, Ann M.. "Le Dessin, Mode D'investigation de la Personnalite Chez les Jumeaux Identiques," *Acta Genet. Med. Gemellolog.*, 1955, 4, 261-274.

Tolor, A.. "Teachers' Judgments of the Popularity of Children from their Human Figure Drawings," *J. Proj. Tech.*, 1955, 19, 170-175.

Tuompo, A.. "S-Testet. Techning av Manniskobild som Diagnostisk Metod," *Nord. Psykol.*, 1953, 5, 194-195. (Abstract).

Utsugi, Etsuko, and Ohtsuko. "A Study on the Human Figure Drawing of Children," Tohoku Psychologia Folia, Tomus XIV Fasciculus 3-4, 1955, *Tohoku Univer.*, Sendai, Japan.

Van Der Horst, L.. "Affect, Expression and Symbolic Function in the Drawing of Children," In M. L. Reymert, *Feelings and Emotions*. 398-417.

Van Der Horst-Oosterhuis, Corrie J.. "Der Therapeutische Kontakt in der Psychotherapie," *Z. Kinderpsychiat.*, 1955, 22, 73-80.

Van Der Horst-Oosterhuis, Corrie J.. "'Der Unbekannte:' Eine Zentrale Magische Figur," *Z. Psychother. Med. Psychol.*, 1959, 9, 1-8.

Van Der Horst-Oosterhuis, Corris J.. "Thought Painting: A Key to Therapy of Emotionally Disturbed Children," *J. Soc. Ther.*, 1957, 3, 2-8.

Vane, J. R. and Eisen, V. W.. "The Goodenough Draw-A-Man Test and Signs of Maladjustment in Kindergarten Children," *J. Clin. Psychol.*, 1962, 18, 276-9.

Vane, Julia R. and Kessler, Rosalyn T.. "The Goodenough Draw-A-Man Test: Long Term Reliability and Validity," *J. Clin. Psychol.*, 1964, 20, 487-8.

Van Hove, W.. "Sur la Correlation Entre le Developpement Intellectual et la Psychomotricite Chez L'enfant Anormal," *Z. Kinderpsychiat.*, 1951, 18, 215-220.

Van Krevelen, D. A.. *De Tekening*. Leiden: Stenfert, Kroese, 1953.

Vernier, Clair M; Whiting, J. F.; and Meltzer, M. L.. "Differential Prediction of a Specific Behavior from Three Projective Techniques," *J. Consult. Psychol.*, 1955, 19, 175-182.

Voorhis, Thelma G.. "A Study in the Early Identification of Maladjusted Children," *Newsletter, A.P.A. Div. 16, School Psychologists*, 1960, 15, 1, 9-13.

Waehner, T. S.. "Interpretation of Spontaneous Drawings and Paintings," *Genet. Psychol. Monogr.*, 1946, 33, 3-70.

Wagner, Nancy J.. *"The Use of Perspective in the Chimney in the H-T-P Drawings of Children Four Through Fourteen Years*. Unpublished study, School of Clinical and Applied Psychol., Richmond Professional Inst., 1953.

Wallach, M. A,; Green, L.R.; Lippsitt, P. D.; and Minehart, Jean B.. "Contradiction between Overt and Projective Personality Indicators as a Function of Defensiveness," *Psychol. Monogr.*, 1962, 76.

Wallon, E. J.. "A Study of Criteria Used to Differentiate the Human-Figure Drawings of Normals, Neurotics, and Psychotics," *Dissert. Abstr*. 1959, 20, 1873.

Wallon, H., and Lurcat, Liliane. "Le Dessin du Personnage par L'enfant: Ses Etapes et ses Mutations," *Enfance*, 1958, 3, 177-211.

Wawrzaszek, F.; Johnson, O. G.; and Sciera, J. L.. "A Comparison of H-T-P Responses of Handicapped and Non-Handicapped Children," *J. Clin. Psychol.*, 1958, 14, 160-162.

Weider, A., and Noller, P. A.. "Objective Studies of Children's Drawings of Human Figures. II. Sex, Age, Intelligence," *J. Clin. Psychol.*, 1953, 9, 20-23.

Weil, P.. "Caracteristiques du Developpement du Dessin par Groupes D'ages, Selon Divers Auteurs," *Enfance*, 1950, 3, 221-226.

Wellek, A. (Ed.). Bericht Uber den 17. und 18. Kongress der Deutschen Gesellschaft fur Psychologie in Gottingen 26-29. Sept. 1948. In Marburg 31. Juli- 4. August 1951. Gottengen: Verlag fur Psychologie, Hogrefe, 1953.

Weinstein, S.; Johnston, Linda; and Guerra, J. R.. "Differentiation of Human Figure Drawings made before and After Temporal Lobectomy and by Schizophrenics," Percept. Mot. Skills, 1963, 17, 687-93.

West, J. V.; Baugh, V. S.; and Baugh, A. P.. "Rorschach and Draw-A-Person Responses of Hypnotized and Nonhypnotized Subjects," Psychiat. Quart., 1963, 37, 123-7.

Wildman, R. W.. "The Relationship Between Knee and Arm Joints on Human Figure Drawings and Paranoid Trends," J. Clin. Psychol., 1963, 19, 460-1.

Williams, J. N.; M. D.. "An Interpretation of the Drawings Made by Maladjusted Children," Va. Med. Monthly, Sept. 1940, 533-538.

Winslow, L. L.. "Stages of Growth and Development in Art," Educ. Adm. Superv., 1952, 38, 18-24.

Wirths, Claudine G.. "A Simple Quantitative Measure of Pressure for Use in the Projective Techniques," J. Clin. Psychol., 1952, 8, 208-209.

Witkin, H. A.; Lewis, H. B.; Hertzman, M.; Machover, Karen; Meissner, P. B.; and Wapner, S.. Personality Through Perception. New York: Harper, 1954.

Wolff, W.. Diagrams of the Unconscious: Handwriting and Personality in Measurement, Experiment and Analysis. New York: Grune and Stratton, 1948.

Wolff, W.. "Projective Methods of Personality Analysis of Expressive Behavior in Pre-School Children," Char. and Pers., 1942, 10, 309-330.

Wolfsohn, T.. "Liv'ayat Hashimush B'mivhanim Bilti Miluliyim," M'gamot, 1951-1952, 3, 148-157.

Woods, W. A., and Cook, W. E. "Proficiency in Drawing and Placement of Hands in Drawings of the Human Figure," J. Consult. Psychol., 1954, 18, 119-121.

Woods, W. A., and Repucci, L. C., "The Developmental Aspects in Drawings of the House," Va. J. Sci., 1954, 5-6, 322. (Abstract).

Yague, J. G., and Agullo, A. S.. "El Test de Dibujo de F. Goodenough y sus Interrogantes Cientificos," Rev. Psicol. Gen. Apl., Madrid, 1959, 14, 155-170.

Yakir, M.. "Tsiyurey Y'ladim K'mivhanim Psihologiyim," Ofakim, 1953, 7, 133-142.

Young, H. H.. "A Test of Witkin's Field-Dependency Hypothesis," J. Abnorm. Soc. Psychol., 1959, 59, 188-192.

Zaks, M. S.. "'Draw-A-Man-With-A-Club:' A Technique for Study of Aggression and Relations to Authority Figure," Percept. Mot. Skills, 1960, 10, 46.

Zazzo, Rene. "Premiere Contribution des Psychologues Scolaires a la Psychologie Differentiele des Sexes," Enfance, 1948, 1, 168-175.

Zimmer, H.. "Validity of Sentence Completion Tests and Human Figure Drawings," In D. Brow and L. E. Abt, Progress in Clinical Psychology, Vol. II, 58-75.

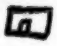
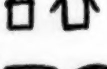
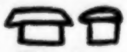
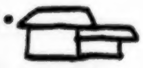
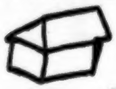
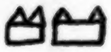
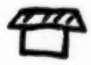
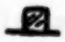
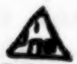
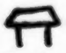
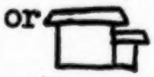
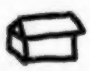
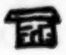
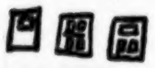
Zucker, L.. "A Case of Obesity: Projective Techniques Before and After Treatment," J. Proj. Tech., 1948, 12, 202-215.

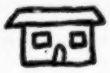
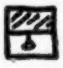
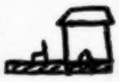
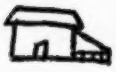
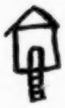
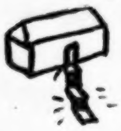
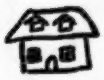
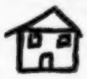
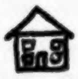
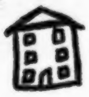
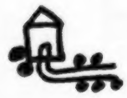
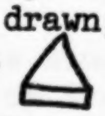
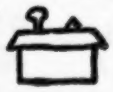
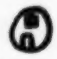
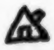
Zuk, G. H.. "Relation of Mental Age to Size of Figure on the Draw-A-Person Test," Percept. Mot. Skills, 1962, 14, 410.

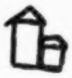
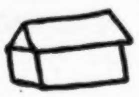
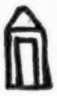
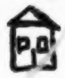
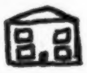
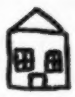
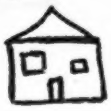
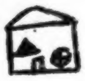
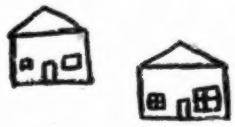
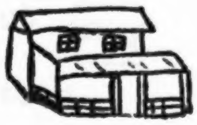
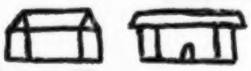
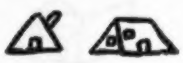
Zuzzo, Rene. "Le Geste Graphique et la Structuration de L'espace," Enfance, 1950, 3, 204-220.

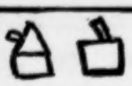
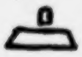
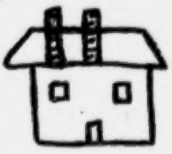
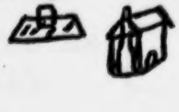
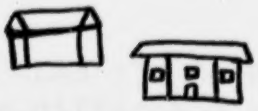
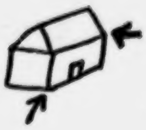
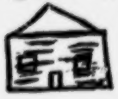
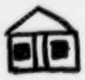
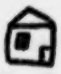
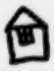
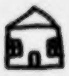
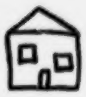
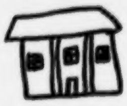
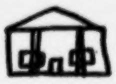
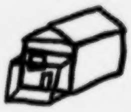
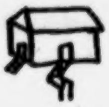
APPENDIX A

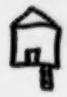
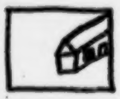
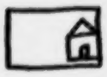
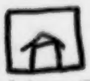
H-T-P Scoring Survey

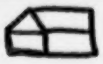
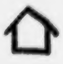
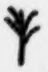
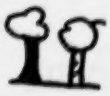
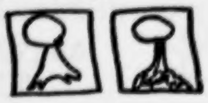
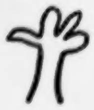
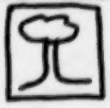
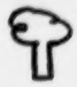
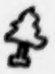
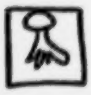
	ITEM	SCORE
HOUSE:		
DETAILS:		
ROOF:		
100/1	None	1
100/2/1	One dimensional 	1
100/2/2	If modern flat roof	1
100/3	One 2-dimensional Inverted V 	1
100/4	One 2-dimensional Wider than high 	1
100/5	Two 2-dimensional.Both rect. (main H and wing) 	1
100/6	Two or more 2-dimensional, one or more rect. & one inverted V, or two trapez. One must be over end wall, the other over side wall. 	1
100/7	Twin points  or	1
	No score for item 100 if 2 end & 1 side wall shown simultan.	
101	Roof material present 	1
101/1	Excess detail	1
102	Chimney (none)	1
102/1	Excess detail (or more than one)	1
102/2	Shaded smoke or encapsulated smoke	1
103	Chimney material 	1
Wall		
104/1	None 	1
104/2	No baseline (no  score if paper based)	1
104/3	Two walls - main H & wing, or end and side. 	1
	No score if 2 ends & 1 side shown simultan. But garage counts. 	
105	Wall material present 	1
105/1	Excess detail	1
Door		
106/1	None	1
106/2	With windows or panels or both 	1
Window		
107/1	None	1
107/2	More than 2	1

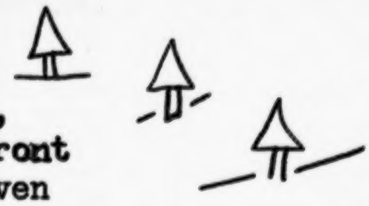
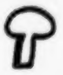
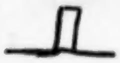
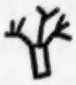
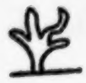
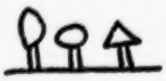
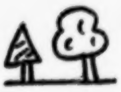
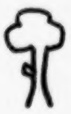
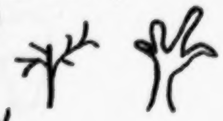
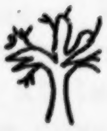
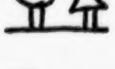
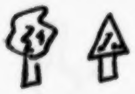
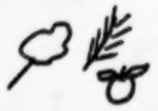
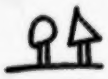
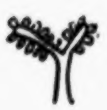
	ITEM	SCORE
107/3	Only 2nd floor	1
107/4	With people (#______)	1
107/5	With objects (specify:________________________)	1
108	Panes (none) (Shading or subdivision indicates panes) 	1
109	Curtains or shutters	1
110	Shades (more than middle cross bar) 	1
Porch		
111/1	Without pillars or railings 	1
111/2	With pillars and/or railings.  Front porch must be at least twice width of door; end porch at least 3 times width of a step.	1
Steps		
112/1	Ladder-like(no tread depth) 	1
112/2	2-dimensional (3-dimen. effect) 	1
Stories		
113/1	1½ 	1
113/2	2  OR 	1
113/3	More than 2 (attic is ½) 	1
114	Walkway from door	1
115	Shrubs beside H or walkway (not for trees) Flowers count 	1
116	Facings (any)	1
116/1	Props (specify. ________________________________)	1
116/2	Shadow present	1
PROPORTION:		
117	Roof to wall - obvious malp. of roof to wall over which it is drawn; definitely larger in area than wall.  No penalty for car-port	1
118	Chimney 1 dimen. or any unconven. shape 	1
Wall		
119/1	Not rectangular.(score for each wall that isn't).   Do not score for poor corners due to drawing inability.	1

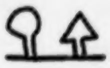
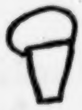
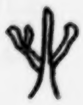
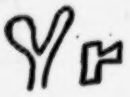
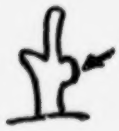
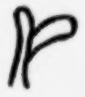
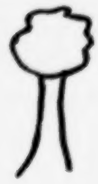
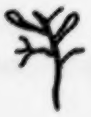
	ITEM	SCORE
119/2/A	Primary wall sq. or taller than wide. (Primary means larger if front & wing(s) shown; most nearly facing viewer if end & side shown.) 	1
119/2/B	Primary wall wider than tall 	1
Door		
120/1	Area more than 1/3 wall area 	1
120/2	1-dimen. or with lower part non-rect. (don't mistake for open 2-dimen. door) 	1
120/3	Miniscule door: obviously far too tiny for wall; much smaller than 1st story window of same wall 	1
120/4	Too small for wall but not miniscule; vert. dimen. less than 1st story window of small wall 	1
Window		
121/1	Malp. of size (twice or more in area) between same type windows, same story & wall. Poor drawing ability not penalized, nor small, conventional stair-landing or bathroom window 	1
121/2	Window shape other than square or rect. (except attic or stairway; glass in or around doors is not a window) 	1
121/3/1	Too small or large for wall. Score leniently (only gross malp.) 	1
121/3/2	& for each story of each wall -	
121/3/3	Not each window	
122	Porch wider than wall to which attached & not continued along side or end wall (not L-shaped) 	1
122/1	Gross malp. of any detail to whole	1
PERSPECTIVE:		
Roof		
123/1	Double persp. - 3 sections simultan.: 2 inverted V and 1 rect. or trapez. Also score if 1 roof with 1 or 2 end walls & a side 	1
123/2	Roof-walling: lines of inverted V brought to baseline without changing angulation 	1
124	Roof transparency - except for sky-lights. Not scored if roof material attempted	1

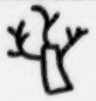
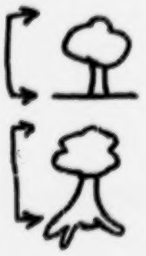
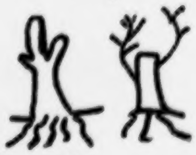
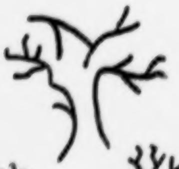
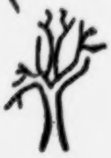
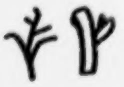
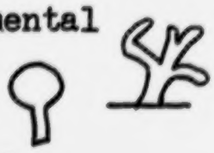
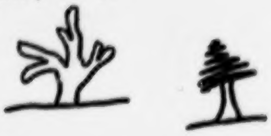
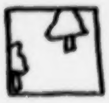
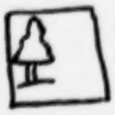
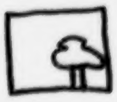
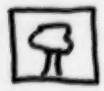
	ITEM	SCORE
Chimney		
125/1	Roof angled 	1
125/2/A	Malplaced- suspended over roof 	1
125/2/B	Malplaced- projecting through eaves directly over door or windows 	1
126	Chimney transparency- no score if chimney material attempted 	1
Wall		
127/1	Double Persp.: side & 2 end walls simultan. 	1
127/2	Satisfactory wall-corner angulation where end & side walls meet. No score with double persp. 	1
Wall transparency		
128/1	Objects or other walls show through a wall	1
128/2	Wall material transparency (as continued across a window) 	1
Door		
129/1	Roof-topped 	1
129/2	Wall-sided 	1
129/3	Malplaced (as too high with no steps). Score leniently	1
129/4	Paper-sided	1
Window		
130/1	Roof-topped 	1
130/2	Wall-sided; no score if modern H with corner windows 	1
130/3	Malplaced in wall or roof (as 2 windows same type, story & wall but different horiz.plane)(overlapping) (For 1, 2 & 3 score once for each story of each wall.) 	1
Porch		
131/1	1-dimen. effect with pillars drawn flat against H and no floor to show depth 	1
131/2	Transp. of pillar; score for each pillar 	1
131/3	Transp. of porch roof 	1
Steps		
132/1	In different plane from that of H. 	1

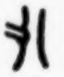
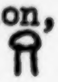
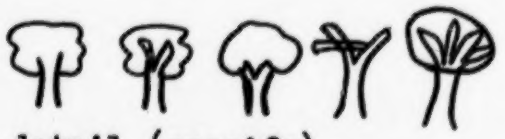
ITEM		SCORE
132/2	Malplaced- attached at no entrance, porch, or below door sill 	1
133	Generalized faulty persp.	1
Placement on page		
134/1	Paper-chopped- part of wall chopped off; paper not serving as wall's lateral margin 	1
134/2	Paper-sided- serves as end-line for a wall 	1
134/3	Paper based 	1
134/4	Vert. disparity less than 1". No score if paper turned. Equals difference between top & bottom margins. Use highest part of roof (not chimney) & lowest part of base.	1
134/5	Paper turned	1
134/6	Very small, esp. in upper left corner	1
134-1	Above or below subject	1
134-2/1	In motion	1
134-2/2	Excess Symmetry	1
134-2/3	A typical sequence	1
134-3	Rear view	1
134-4	Excess gen'l eras.	1
134-5	Excess shadings:________________	1
134-6	Theme (specify):________________	1
134-7	Labeling (name,#,Other)	1
134-7/1	Of color	1
134-8	Abandons(with or without eras or crossed out)	1
134-9	Bizarre, incongr., or over-symbolic treatment	1
134-10/1	Outside lines heavy, inside light	1
134-10/2	Inside lines heavy, outside light	1
134-11	Uneven pressure	1
134-12	Broken lines:____________	1
134-13	Any transparency	1
134-14	Omiss. any essen. detail (specify)_______	1
Knob		
134-15/1	Left	1
134-15/2	Right	1
134-15/3	Center	1
134-15/4	Shaded	1
134-15/5	Encapulated	1
134-15/6	Large	1
134-16	Mail slot, Roof over door, T.V. Ant., Light, Garage	1

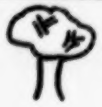
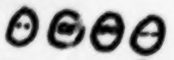
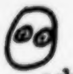
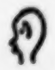
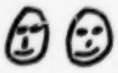
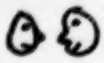
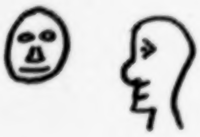
	ITEM	SCORE
134-17	Vert. roof lines not parallel 	1
134-18	Lean	
	1. Alpha	
	2. Beta-if not zero, add S or C (Straight or curved)	_ _ s,c
134-19	Finger or side pencil shading	1
134-20	Louvered attic window	1
134-21	Domed door or windows	1
134-22	Top wall line omitted(with eaves) 	1
134-23	Garage or carport	1
134-24	Rainspout or gutter	1
134-25	Splash pad	1
134-26	Shape other than box-like:"L" shape, split level, etc.	1
134-27	Cellar windows	1
134-28	Windows floor-based	1
134-29	Unidentified objects	1
Window type		
134-30/1	Appropriate consistency	1
134-30/2	Approp. variation	1
Pane Division		
134-31/1	Approp. Consistency	1
134-31/2	Approp. variation	1
134-32	Roof eaves or overhang	1
134-33	Curtain or shutter material	1
134-34	Originality present	1
134-35	Failure to erase or incomplete erasure	1
134-36	Improvement after erasure	1
TREE:		
DETAILS:		
200	Trunk 1-dimen. 	1
200/1	Scar (with shading depth, animals or graining) 	1
201	Bark; no score with 1-dimen.trunk	1
202	Roots; 2-dimen. with actual & irreg. taper into ground  	1
Baseline		
203/1	None even for trunk not paper-based	1
203/2	Baseline made of trunk's sides, or paper-based 	1
203/3	Baseline for trunk only, or boxed like potted plant, or on wooden base, or suspended in mid-air with roots dangling. No score for 1-dimen. trunk   	1
203/4	Baseline for trunk & beyond, either by a line crossing trunk at its base and	1

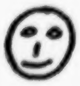
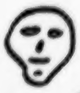
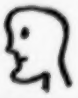
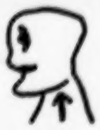
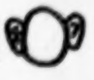
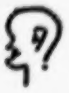
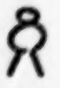
	ITEM	SCORE
	extending laterally, a line closing trunk & a longer one(or shading near tree base) for ground line, or grass, or a long line front or back of T for ground (even though trunk not closed) 	
203/5	Keyhole T 	1
Branches		
204/1	None 	1
204/2	1-dimen. 	1
204/3	2-dimen. actually drawn out 	1
204/4	2-dimen. by unshaded impl. (oval, circular or deltoid figure with only a perimeter) 	1
204/5	2-dimen. by shaded impl. (even if partial). If 2 or more types shown,score both. Also Score Fruit 	1
204/6	Broken or sawed off branches 	1
Branch system		
205/1	None (a system must have br.-from-br. radiation as well as from trunk)	1
205/2	System entirely 1-dimen. or entirely 2-dimen. 	1
205/3	2-dimen. branches tapering to 1-dimen. twigs 	1
205/4	System shown by unshaded implication (oval, circle, deltoid, perimeter only) 	1
205/5	System shown by shaded implication, even partial. If 2 or more types shown, SCORE BOTH. ALSO FRUIT 	1
205/6	Compul., erratic branchwork	1
Foliage		
206/1	None	1
206/2	2-dimen. or acicular leaves if even 1 is drawn. 	1
206/3	By unshaded implication (oval, circle or deltoid, perim. only) 	1
206/4	Compulsive leaves on non-bifurcated branches 	1

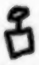
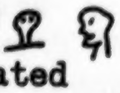
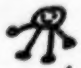
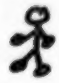
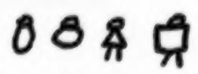
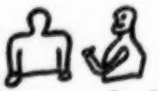
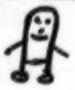
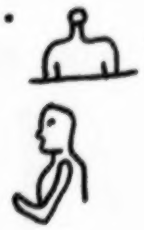
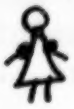
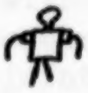
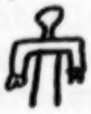
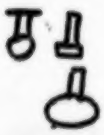
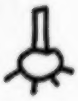
ITEM		SCORE
206/5	By shaded impl. even if partial	1
206/5/A	Excess detail	1
	Scribble foliage	1
206/6/A1	Straight line horiz.	1
206/6/A2	Straight line vertical	1
206/6/B	Circular	1
Falling:		
206/7/A	Leaves	1
206/7/B	Fruit (specify):	1
206/7/C	Other:________________	1
207	Branch system baseline not shown (not closed across trunk). Not scored for 1-, 2-, or 1- & 2-dimen. systems 	1
208	Grass, if recog. by two scorers	1
208/1	Fully shaded	1
208-1	Props	1
208-1/A	Squirrels	1
208-1/B	Birds	1
208-1/C	Birdnest	1
208-1/D	Other (specify):________________	1
208-1/E	Fruit on ground	1
208-1/F	Fruit on T	1
208-1/G	Clouds	1
208-1/H	Sun	1
208-2	Shadow	1
PROPORTION:		
Trunk		
209/1	Wider elsewhere than at base 	1
209/2	2-dimen., at least twice as high as wide & never wider than at base Score also if branch system covers trunk (shaded or by impl.) 	1
Branch		
210/1	Wider elsewhere than where joining trunk 	1
210/2	2-dimen. branch shorter than its width. Not scored for cut off branches 	1
210/3	2-dimen. branch wider than trunk 	1
Branch system		
211/1	Not wider than full height of T. No score if paper-chopped or paper-sided 	1
211/2/A	Any 2-dimen. branches with 1-dimen. trunk 	1

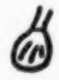
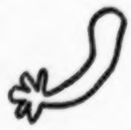
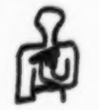
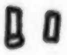
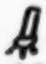
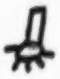
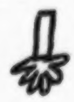
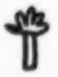
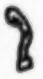
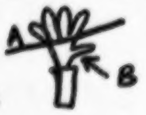
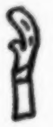
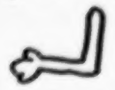
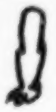
ITEM			SCORE
211/2/B	All 1-dimen. branches with 2-dimen. trunk		1
Height of T			
212/1	Less than1¼"		1
212/2	More than 7½"		1
212/3	Between 1¼" & 7½". Root structure not included		1
212-1	Gross malproportion of any detail to whole		1
PERSPECTIVE:			
213	Roots exposed with or without baseline		1
213/1	Compul. erratoc rootwork		1
214	"Schiz." T: no baseline for trunk or branch system		1
214/1	Branch system unattached to trunk		1
214/2	Disjointed branches that begin as 2-dim., then change to 1		1
Branch attachment			
215/1	Attachment to trunk or other branch segmental, as if drawn separately then attached without becoming an integral part of the other. 1-dimen. branches always segmental		1
215/2	Attachment sometimes fluid but not throughout T. (as by impl. & without a branch system baseline)		1
215/3	Complete fluidity of br.-trunk & br.-br. attachment, actually or implied (shaded or unshaded)		1
Placement on page			
216/1	Paper-chopped; any part of T except its base extends past page margin		1
216/2	Paper-topped; upper parts extend to but not beyond top or side margins		1
216/3	Paper-sided; side of T extends to but not beyond side margins of paper		1
216/4	Paper-based; bottom of page is trunk's baseline		1
216/5	Vert. disparity: difference between top & bottom margins. Measure from		1

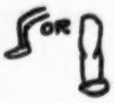
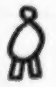
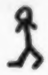
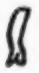
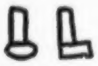
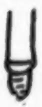
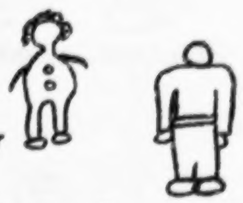
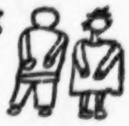
	ITEM	SCORE
	trunk base, not roots. No score if paper turned a. 2½" or more b. 1½" to under 2½" c. less than 1½"	
216/6	Paper turned	1
216/7	Very small, esp. in upper left corner	1
217	Fruit tree	1
217-1	Arc-like hill	1
217-2	Penetration, Tree or branch 	1
217-3	Phallic 	1
217-4/1	In motion	1
217-4/2	Excess. symmetry	1
217-4/3	Atypical sequence	1
217-5	Excess. gen'l. eras.	1
217-6	Excess. shading	1
217-7	Theme (specify) ______	1
217-8	Labeling	1
217-8/1	Of color	1
217-9	Stick figure	1
217-10	Abandons	1
217-11	Bizarre, incongr. or over-symbolic treatment	1
217-12	Outside lines heavy, inside light	1
217-13	Uneven pressure	1
217-14	Broken lines	1
217-15	Any transparency as: 	1
217-16	Omiss. any essen. detail (specify) ______	1
217-17	Generalized faulty perspective	1
217-18	Open-end branches	1
217-19	Sub-branches	1
217-20	Speared branches	1
217-21	Lean:	
	1. Alpha	_
	2. Beta	_s,c
217-22	Phallic Index:	
	1. Trunk width: top-base	_
	2. Width ratio: tr. Apex ÷	_
217-23	Finger or side pencil shading	1
217-24	Trunk heavy, Br. sys.light	1
217-25	Over-all faint or sketchy	1
217-26	Originality present	1
217-27	Failure to erase, or incomplete erasure	1

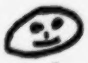
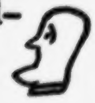
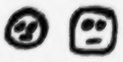
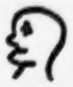
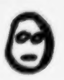
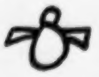
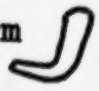
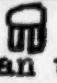
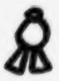
	ITEM	SCORE	
217-28	Improvement after erasure 	1	
217-29	Pierced branches	1	
217-30	Unidentified objects	1	
PERSON:		P1	P2
DETAILS:			
Eyes			
300/1	None	1	1
300/1/B	Wrong number	1	1
300/2/A	Dots,  hollow circles, ovals, squares, or one horiz. line for each eye	1	1
300/2/B	2-dimen. socket & pupils indic. by dots or circles  or implic. (as  when covered by hand.) No score if rear view	1	1
300/2/C	Iris shown	1	1
300/2/D	Lashes on male	1	1
	Corrections		
300/3/A	Glasses	1	1
300/3/B	Other (Specify)____________________ (include entire body)	1	1
300/4/A	Large (with pupil)	1	1
300/4/B	Pin-point	1	1
300/4/C	Furtive	1	1
300/4/D	Crossed	1	1
300/5/A	Closed	1	1
300/5/B	Pupil omitted	1	1
Nose			
301/1	None	1	1
301/1/A	Septum division	1	1
301/2	In full-face by 1 straight vert. line or 1 dot 	1	1
301/3	Oval, △, □, or O	1	1
301/4/A	In full-face by 2 dots, circles, ellipses, or 2 unjoined vert. lines;  in profile by a	1	1
301/4/B	2 dots or nostril emphasis	1	1
301/5	2-dimen. as by 2 parallel lines joined at bottom, or 1 vert. line curving at lower end	1	1
301/6/A	Definite flaring of nostrils in convent. 2-dimen. nose.  No score if rear of head	1	1

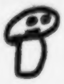
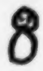
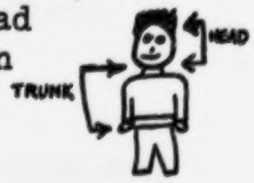
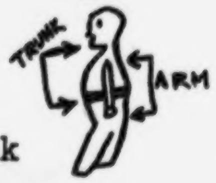
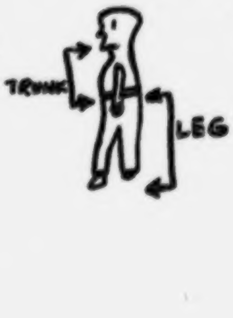
ITEM		SCORE	
		P1	P2
301/6/B	Excess flared, hooked or broad	1	1
Mouth			
302/1	None	1	1
302/1/A	Open	1	1
302/2	1-dimen. (1 thin horiz. → line. Reshading implies 2-dimen. & is not scored here) 	1	1
302/3	Senuous, full or heavy shading on ♂	1	1
302/4	Over-emphasized	1	1
302/5	Elongated	1	1
302/6	Line between lips	1	1
302/7	Teeth or tongue shown	1	1
302/8	Heavy slash for mouth	1	1
Chin			
303/1	In full-face by distinct & careful lineation. Must be clearly defined. Cleft shown 	1	1
303/2	In profile, clearly indic. 	1	1
303/3	In profile, mandibular line shown (jaw line cont'. toward back of head and more than a continuation of the chin-into-neck line) 	1	1
Ears			
304/1	None; no score if ♀ 's hair covers them	1	1
304/2	Convolutions shown clearly, No score for simple dot or circle  	1	1
304/3	Excess. size or elaboration	1	1
304/4	Seen through hair	1	1
304/5	♀ :ears appropriately shown with hair	1	1
305	Hair - parted ♀	1	1
305/1	None on head or face. No score if hat presumably hides it	1	1
305/2	In more than 1 place (brows, lashes, mustache, top of head, etc.) In full-face both brows must be shown	1	1
305/3	Excess. detail	1	1
305/4	Sideburns	1	1
305/5	Beard	1	1
305/6	On jaw line of male	1	1
305/7	Excess. thick & unruly on female	1	1
Neck			
306/1	None (no score if wrapped in scarf, for instance) 	1	1

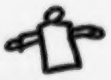
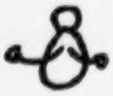
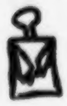
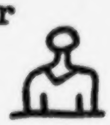
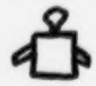
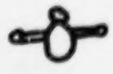
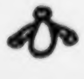
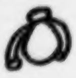
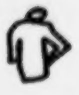
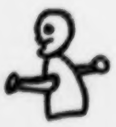
ITEM		SCORE	
		P1	P2
306/2	1-dimen. 	1	1
306/3	2-dimen. 	1	1
306/4	Thin and elongated	1	1
306/5	Severely separated from body	1	1
Trunk			
307/1	None 	1	1
307/2	1-dimen. (as in  stick man)	1	1
307/3	2-dimen. (0,0, Δ , or box-  like)	1	1
307/4	2-dimen.,conventional shape 	1	1
307/5	♂ hips &/or buttocks large & rounded, esp. with angular ♀	1	1
307/6	Excess. detail in hip lines	1	1
307/7	Confusion in hip lines	1	1
307/8	♂ trunk rounded	1	1
307/9	♂ trunk waspish	1	1
307/10	Excess breast shading or breast indication	1	1
307/11	2 parallel lines from head to foot (Fuss-Kopf) 	1	1
Shoulders			
308/1	None or trunk is 1-dimen. 0, 0, Δ, or box-like	1	1
308/2	Shoulders drawn (both in full-face). In full or partial full-face, score only if there is an obvious rounding from horiz. to vert. In profile, uppermost margin of arm must approximate base of neck line 	1	1
308/3	Puffed sleeve type 	1	1
308/4	Box type 	1	1
308/5	2-dimen. T-type 	1	1
Arms			
309/1	None	1	1
309/2	Wrong number(only 1 needed in profile)	1	1
309/3	1-dimen.	1	1
309/4	Excess. shading or reinforcement	1	1
Hands			
310/1	Mitten-like, bar-like, or circular without fingers 	1	1
310/2/A	Mitten, bar-like, or circular with 	1	1

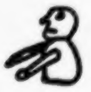
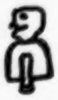
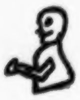
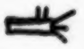
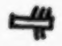
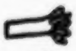
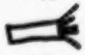
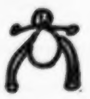
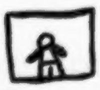
ITEM		SCORE P1	SCORE P2
	1-dimen. fingers		
310/2/B	Mitten hands with fingers 	1	1
310/3	2-dimen. wrist clearly shown by narrowing of forearm, then widening towards fingers, or joint shown by flexion of a 2-dimen. arm & hand at proper place. Score by implic. if hands in pockets or behind back  	1	1
310/4	Hands & fingers omitted	1	1
310/5	Excess. shading or reinforcement	1	1
310/6	Hands in pockets or concealed 	1	1
Fingers			
311/1	None	1	1
311/2	1-dimen. but wrong # 	1	1
311/3	1-dimen. right # actually or by implic. as with hand partly in pocket 	1	1
311/4	2-dimen. but wrong #. For 2-dimen. it must be longer than wide 	1	1
311/5	2-dimen., right #. Score if all fingers can't be seen due to hand's position, but those seen are 2-dimen. Also if hands in pockets, muff or behind back  	1	1
311/6	Thumb distinct from fingers. Credit only if line A passes above point B (thumb attached closer to body axis than fingers)  	1	1
311/7	Speared, talon or claw-like	1	1
311/8	Heavy shading or reinforcement	1	1
311/9	Fingers without hand, esp. 1-dimen., heavy pressure	1	1
312	Elbows: joint clearly shown by flexion at proper place of 2-dimen. arm (whole arm must be more than single ellipse), or by careful outlining of joint if not flexed  	1	1
312-1	Nothing below waist	1	1
312-2	Heavy demarcation of waist	1	1
312-3	Tightened waistline	1	1
Legs			
313/1	None	1	1
313/2	Wrong # (only one needed in profile)	1	1
313/3	1-dimen.	1	1

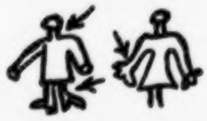
ITEM		SCORE	
		P1	P2
313/4	Excess. shading of thigh	1	1
313/5	Legs too small	1	1
313/6	Heavy shading of leg	1	1
314	Knee joint shown by flexion at proper place, or recog. outlining of joint. No score for 1-dimen. legs 	1	1
Feet			
315/1	None. No score if toes are shown 	1	1
315/2/A	1- or 2-dimen. ft. with wrong # of toes 	1	1
315/2/B	Presence of toes 	1	1
315/3	Golf-club-head, oval or sq. without heel 	1	1
315/4	Heel or shoe clearly shown if foot in profile, or right # 2-dimen. toes (or shoe clearly outlined) if feet pointed front or back. Also score if feet hidden, as by long dress 	1	1
315/5	Too small	1	1
315/6	Heavy shading	1	1
Clothing			
316/1	None and no sex organs to show intended nudity	1	1
316/2	Suggested (as by shading, or a bottom trouser or dress line, belt, hat, buttons) but neither trouser nor dress satisfactorily outlined throughout 	1	1
316/3	Minimum of conventional clothing (dress or trousers) &/or more complete clothing suggested 	1	1
316/4	Either nude with sex organs or well-clad. Must have coat or shirt, trousers & shoes for ♂ ; dress and shoes for ♀ . Shoe must be fully outlined unless hidden as by dress. In some profiles (partial rear view) sex organs may be implied if Subj.'s intention is clear. In full-face all sex organs must be drawn or concealed by other parts of body	1	1
316/5	Shoe heel present	1	1
316/6	Excess. detail or emphasis. of ♂ heel.	1	1
316/7	Excess.large or small tie.	1	1
316/8	Fly-away tie or scarf	1	1

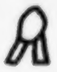
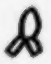
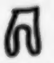
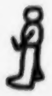
	ITEM	SCORE	
		P1	P2
316/9	Suggestively underclothed	1	1
316/10	Elab. eyelets, laces or bows in shoes	1	1
317	Additional details (cane, basket, roller skates). Object must be relevant to what P may be (sword for soldier), or be doing (horse if riding)	1	1
317-1	Joints, nails or knuckles	1	1
317-2	Theme (specify):	1	1
317-3	Labeling - clothing, name, initial	1	1
317-3/1	Of color	1	1
317-4	Large pipe or cigar	1	1
317-5	Smoking	1	1
317-6	Using gun	1	1
317-7	Shadow	1	1
PROPORTION:			
Facial			
318/1	Fewer than 3 of the following: eyes & mouth wider than tall, ears & nose taller than wide. Credit for ears if covered by hair. In profile, credit for eye (if more than a dot) & mouth	1	1
318/2	Any 3 of the above	1	1
318/3	All 4 of the above	1	1
Head proportion			
319/1	In full-face, face a horiz. oval  In profile, face with either dimen. markedly longer than the other 	1	1
319/2	In full-face, face a circle or almost square 	1	1
319/3	In profile, both dimen. approx. equal. Vert. dimen. is tip of chin to top of forehead. Horiz. is center of forehead to occipital bulge 	1	1
319/4	In full-face, face a vert. oval 	1	1
319/5	Head too big	1	1
Arms			
320/1	1 or both forearms wider than upper arm. Score leniently - not for minute differences 	1	1
320/2	Taper: upper arm wider than forearm If both shown, both must taper 	1	1
321	Legs - straight 	1	1
321/1	Lower leg wider than upper leg 	1	1

ITEM		SCORE	
		P1	P2
321/2	Satisfactory taper from thigh or hem to ankle. Score only if enough of the leg shows good taper. If both shown, both must	1	1
Dimen. scatter, arms & legs			
322/1	2-dimen. arms with 1-dimen.legs	1	1
322/2	1-dimen. arms with 2-dimen. legs	1	1
Ratios			
Face-trunk as to width (full-face)			
323/1/A	Face wider than trunk 	1	1
323/1/B	Face and trunk approx. same width 	1	1
Head-trunk height			
	Head is tip of forehead to bottom of chin with mouth closed; if open, approximate point. Trunk is bottom of chin to top of pelvic crest (when clothed, lower belt margin; nude, slightly above hip joint).		
323/2/A	Trunk is 3 or more times longer than head, or head is longer than trunk	1	1
323/2/B	Trunk is 2 or more, but less than 3 times longer than head, or is equal or more, but less than 1½ times longer than head	1	1
323/2/C	Trunk is 1½ or more, but less than 2 times longer than head 	1	1
Arm-trunk (long axis dimen.)			
	Use longer arm from tip of shoulder to tip of farthest finger. 		
323/3/A	Arms 2 or more times longer, or trunk longer	1	1
323/3/B	Arms 1½ or more, but less than 2 times longer	1	1
323/3/C	Arms equal or more, but less than 1½ times longer	1	1
Trunk-leg			
	Use longer leg from tip of pelvic crest to farthest point of foot.		
323/4/A	Legs 4 or more times longer, or trunk longer	1	1
323/4/B	Legs two or more, but less than 4 times longer	1	1
323/4/C	Legs equal trunk	1	1
323/4/D	Legs longer, but less than twice as long. If pelvic crest can not be determined, estimate & score trunk 	1	1

	ITEM	SCORE	
		P1	P2
	ratios.		
323-1	Gross Malp. any detail to whole	1	1
PERSPECTIVE:			
Arm-trunk attachment			
324/1	Attachment segmental as if drawn separately, then glued on; no continuation of shoulder line into arm. 1-dimen. arms always segment 	1	1
324/2	Both arms come from common or nearly common source 	1	1
324/3	Ribbon attachment, as if squeezed from a tooth-paste tube. Almost always shows marked widening of arm as it leaves trunk 	1	1
324/4	Complete fluidity. Upper shoulder line continues into outer arm line; arm becomes extension of shoulder. If both shown, both must be fluid 	1	1
Malplacement of arms			
325/1	1 or both attached to head or neck	1	1
325/2	1 or both attached to trunk definitely below shoulder level. If both 1 & 2 are used, score D2 	1	1
326	Arm position. Degree of angle between arm and side of body Left: Right: In full-face	1	1
326/1/A	Both extend laterally at approx. right angles or more to trunk 	1	1
326/1/B	1 or both at less than right angles but not straight down 	1	1
326/1/C1	1 or both straight down 	1	1
326/1/C2	Pressed rigidly to body	1	1
326/1/D	1 or both (2-dimen.) flexed If two types drawn, use higher rating 	1	1
In profile			
326/2/A	1 or both extend forward, backward, &/or upward. (if 1 is pointing at something score A3) 	1	1

ITEM		SCORE	
		P1	P2
326/2/B	1 or both extend forward or backward but at less than right angles to trunk 	1	1
326/2/C	1 or both hang straight down 	1	1
326/2/C2	Pressed rigidly to body	1	1
326/2/D	1 or both (2-dimen.) flexed If 2 types drawn use higher score 	1	1
Finger Attachment			
327/1	More than 1  or protrudes  from side of arm	1	1
327/2	Protrude from end of forearm.  or  No score for 327 if any recogn. hand attempted.	1	1
328	Mal-attachment of legs; 1 or both from head or neck, or joining trunk in definitely abnormal way 	1	1
Placement on page			
329/1	Paper-chopped; part of P cut off by page 	1	1
	Vert. disparity; no score if paper turned.(Difference between top & bottom page margins. Measure from skull not hat)		
329/2/A	2" or more	1	1
329/2/B	1" to less than 2"	1	1
329/2/C	Less than 1"	1	1
329/2/D	Very big, in center	1	1
329/2/E	Very small, esp. in upper left corner	1	1
329/3	Paper turned	1	1
Method of presentation			
330/1/1	Body profile, head full-face	1	1
330/1/2	Head profile, body full-face	1	1
330/2	Full or partial profile, both face and body	1	1
330/3	Rear view	1	1
330/4	Confusion of front & profile for head	1	1
	Animation; doing something besides standing still (sitting, walking, running, riding, throwing, writing, etc.)		
331/1	Violent, unpleasant or hostile activity	1	1
331/2	Impulse to motion blocked	1	1
331/3	Seated	1	1
Type of P			
332/1	Unrecognizable for sex subject claims, or subject can't or won't specify sex	1	1

ITEM		SCORE	
Transparency		P1	P2
333/1	Of clothing	1	1
333/2	Internal organs 	1	1
333/3	Other (hair, etc.)	1	1
	Score once for each trans. except a pr. of shoes without top lines counts only one.		
334	Opp. sex drawn 1st	1	1
335	Excess. cosmetics, adornment or glamour of female (seductive)	1	1
336	Clowns, cartoons or silly-looking	1	1
337	Excess. gen'l (sloppy) erasure	1	1
338	Excess. shading	1	1
339	Excess. shading of female:i.e., breasts or contours	1	1
340	Inconsist, shading (as only 1 article of clothing when others appropriate). Specify:______________________ ______________________________	1	1
341	Shaded skin	1	1
342	Stick figure	1	1
343	Abandons (with, without eras.,crossed out)	1	1
344	Head clear, body vague	1	1
345	Bizarre, incong. or over-symbolic treatment	1	1
346/1	Inside lines heavy, outside light	1	1
346/2	Outside lines heavy, inside light	1	1
347	Uneven pressure	1	1
348	Broken lines; where:_______________ ______________________________	1	1
349	Omiss. any essen. detail (specify): ______ ______________________________	1	1
350	Legs pressed tightly together	1	1
351	Generalized faulty perspective	1	1
Size			
	Measure from top & bottom - most part		
352/1	P1 & P2 same size	1	1
352/2	P1 larger	1	1
352/3	P2 larger	1	1
353/1	In motion	1	1
353/2	Props (specify):_______________ ______________________________	1	1
353/3	Excess. symmetry	1	1
353/4	A typical sequence	1	1
Facial affect			
354/1	Happy	1	1
354/2	Sad	1	1
354/3	Other (specify):_______________	1	1
355	Cheeks present	1	1
355/1	Smiling	1	1

	ITEM	SCORE	
		P1	P2
356	Lean: Alpha	—	—
	Beta	—	—
357	Jewelry: ____________________	1	1
358	Pockets: ____________________	1	1
359	Buckle: ____________________	1	1
Buttons			
360/1	Midline	1	1
360/2	Shaded	1	1
360/3	Encap.	1	1
360/4	Large	1	1
361	Bangs	1	1
362	Encap. hair	1	1
363	Long dress or high heels	1	1
363/1	Clothing in profile (clearly & approp.)	1	1
364	Finger or side pencil shading	1	1
365	Originality present	1	1
366	Failure to erase or incomplete eras.	1	1
367	Improvement after erasure	1	1
Leg-trunk junction			
368/A	Legs do not meet at trunk 	1	1
368/B	Legs meet at an angle 	1	1
368/C	Legs meet in a curve 	1	1
	(Omit a, b, & c if junction concealed.)		
368/D	Profile: 1 leg fully concealed	1	1
368/E	Profile: 1 leg partially concealed 	1	1

	GOODENOUGH ITEMS	SCORE	
		P1	P2
B/1	Can be recog. as an attempted Person Head present. Features alone not credited	1	1
B/2	Legs present & correct number; 1 or 2 in profile	1	1
B/3	Arms present and correct number; fingers alone not credited	1	1
Trunk & Shoulders			
B/4/A	Trunk present, any clear indication; 1-or 2- dimen.; score if features are in upper half of a single figure. No score if in lower half unless a cross line drawn to indicate head and legs.	1	1
B/4/B	Trunk longer than wide. No score:1-dimen.	1	1
B/4/C	Shoulders definitely indicated. Score strictly. Any elliptical form, perfect sq. or rect. not credited. More leniency allowed in profile.	1	1

	GOODENOUGH ITEMS	SCORE	
		P1	P2
Arm & leg attachment			
B/5/A	Both arms & legs attached to trunk anywhere, or arms to neck (or head-trunk junction if neck omitted). No score if trunk omitted. If 1 or more limbs omitted, score for limb shown, but all present must attach to trunk	1	1
B/5/B	Legs attached to trunk; arms attached to trunk at correct point	1	1
Neck			
B/6/A	Present; any clear indication distinct from head and trunk	1	1
B/6/B	Neck outline continuous with that of head and/or trunk	1	1
Features			
B/7/A	Eyes present, 1 or 2	1	1
B/7/B	Nose present	1	1
B/7/C	Mouth present	1	1
B/7/D	2-dimen. nose (more than 2 dots) & mouth; 2 lips shown	1	1
B/7/E	Nostrils shown. In profile, score if line outlining nose extends inward upon the upper lip. Also score if nose is only 2 dots.	1	1
Hair			
B/8/A	Any scribbling on head	1	1
B/8/B	On more than circumference of head; better than a scribble; non-trans. (head outline not showing through)	1	1
Clothing			
B/9/A	Any present (as buttons, vert. or horiz. lines across trunk)	1	1
B/9/B	At least 2 articles non-trans. No score for buttons alone	1	1
B/9/C	No. trans. of any sort; both sleeves & trousers must be shown	1	1
B/9/D	Any of these 4 defin. indic.: hat, shoes, coat, shirt, collar, tie, belt or suspenders, trousers	1	1
B/9/E	Costume complete, no incongruities. A def. & recog. kind as business suit, uniform. Score strictly. Sleeves, trousers & shoes always necessary.	1	1
Hand			
10/A	Fingers present both hands if both shown On 1 if 1 shown.	1	1

	GOODENOUGH ITEMS	SCORE	
		P1	P2
10/B	Correct # fingers, both hands if both shown. on 1 if 1 shown.	1	1
10/C	Finger detail correct: 2-dimen., longer than wide, & angle subtended by them not more than 180° . If 1 hand shown, score on basis of it.	1	1
10/D	Opposition of thumb shown; clear differentiation of thumb from fingers. Score strictly. On both hands if both shown, 1 hand if 1 shown.	1	1
10/E	Hand shown as distinct from fingers or arms	1	1
Arm & leg joints			
11/A	Arms joints shown (elbow &/or shoulder). Elbow must bend abruptly (not a curve). For shoulder, arm must hang at side approximately parallel to body axis.	1	1
11/B	Leg joint shown (hip &/or knee). Narrowing of leg or bend in knee. Score if inner lines of the 2 legs meet at point of junction with body.	1	1
Proportion			
12/A	Head area 1/10 to ½ trunk's.Score leniently	1	1
12/B	Arms equal to or slightly longer than trunk, but not reaching knee. Arms narrower than trunk.	1	1
12/C	Legs from same length to twice length of trunk & narrower than trunk.	1	1
12/D	2-dimen. feet & legs; feet not clubbed (must be longer than tall from sole to instep). Length from 1/10 to 1/3 total length of leg. In full face score if foot is separated in some way from rest of leg.	1	1
12/E	Both arms and legs 2-dimen. (hands & feet may be 1-dimen.)	1	1
13	Heel shown. In full-face score if foot is shown in perspective.	1	1
Motor coordination			
14/A	Lines in CLASS A: all lines reasonably firm, for the most part meeting cleanly at junctions without marked tendency to cross, overlap or leave gaps. Complexity of drawing taken into consideration.	1	1
14/B	Lines in CLASS B: all firmly drawn with correct joining. More strict than 14/A.	1	1
14/C	Outline of head without obviously unintentional irregularities. Score rather strictly.	1	1
14/D	Trunk outline - no score for primitive	1	1

	GOODENOUGH ITEMS	SCORE	
		P1	P2
	circle or ellipse.		
14/E	Arms & legs (2-dimen.) - no irregularities & without tendency to narrowing at junction with body.	1	1
14/F	Features - symmetrical in all respects. 2-dimen. eyes, nose & mouth. Score strictly.	1	1
Ears			
15/A	Present & correct number	1	1
15/B	Present in correct position & proportion; taller than wide. In profile, some detail required (as inner dot). Placed somewhere between middle 2/3 of head, & shell-like portion must extend toward back of head.	1	1
Eye detail			
16/A	Brow and/or lashes	1	1
16/B	Pupil (in both eyes if both shown). Dot only with curved line over it not scored.	1	1
16/C	Longer than tall. In profile, score if represented by a dot & sector of a circle.	1	1
16/D	Glance; face must be in profile. Eye as sector of a circle, or if almond-shaped, pupil must be toward front rather than center.	1	1
Chin & forehead			
17/A	Both shown	1	1
17/B	Chin projection shown; chin clearly distinct from lower lip. Rarely scored except in profile. Score in full-face if modeling of chin indicated in some way, as by curved line below lip.	1	1
Profile			
18/A/3	(A) head, trunk & foot in profile without error. Entire drawing may contain not more than one of the following errors: (1) One body transparency (as trunk outline showing through arm) (2) Legs not in profile (3) Arms attached to outline of back & extending forward.	1	1
18/B	(B) must be in true profile without error or bodily transparency, except shape of eye may be ignored.	1	1

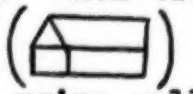
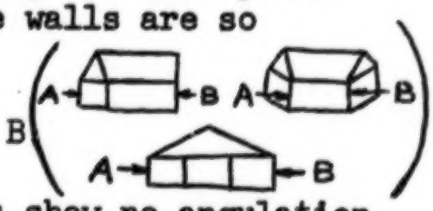
APPENDIX B

Method of Scoring Alpha and Beta Lean

House:

To measure alpha lean, connect the bases of the left and right wall lines (to form the internal baseline) and erect a perpendicular. The degrees of deviation of that perpendicular from the vertical axis of the paper is the alpha lean.

To measure beta lean, connect the tops of the left and right wall lines. Locate the midpoint of this line and drop a line from it to the midpoint of the internal baseline. The degrees of deviation of this line from a perpendicular erected from the internal baseline is the beta lean.

For houses drawn in perspective, when at least one wall faces front, use the left and right wall lines of that front-facing wall to measure alpha and beta. When two walls are so drawn that neither faces front, (1) measure alpha by obtaining the deviation of the center wall line (that closest to the viewer) from the vertical axis of the paper; (2) measure beta by connecting the bases and apices of the two outermost wall lines with two straight lines, locating the midpoints thereof, and finding the deviation of a line connecting those midpoints from the center wall line. When two or more walls are so drawn that all face front  measure alpha and beta by using walls A and B 

That is, use the outermost walls whose bases show no angulation.

Tree:

To measure alpha, establish the baseline of the trunk and locate its midpoint. Erect a perpendicular from the trunk baseline and measure its deviation from the vertical axis of the paper.

To measure beta, erect two lines perpendicular to the trunk baseline which pass either through the two outermost points of foliage or branch system. Connect those perpendiculars with a line parallel to the trunk baseline and locate its midpoint. Connect that midpoint to the midpoint of the trunk baseline and measure its deviation from a perpendicular to the trunk baseline.

Person:

If the person is obviously in motion, score M instead of measuring alpha or beta.

Alpha and beta internal baselines are found by connecting the midpoints of the legs at the ankles.

To measure alpha, erect a perpendicular from the midpoint of the internal baseline and measure its deviation from the vertical of the paper.

To measure beta, erect two perpendiculars from the internal baseline which pass through the outermost edges of the skull. Connect the two perpendiculars with a line parallel to the internal baseline and mark its midpoint. Connect that midpoint to the midpoint of the internal baseline and measure the deviation of the resulting line from a line perpendicular to the internal baseline.

APPENDIX C

Instructions for Administering the H-T-P

1. You will find enclosed an H-T-P booklet. The front cover of the booklet is marked H for house. The first inside page is marked P-1 for the first person the child is asked to draw. The second inside page is marked P-2 for the second person the child is asked to draw. The back cover of the booklet is marked T for tree. Note: The test is not administered in the above order; i.e., H, P-1, P-2, T. As you will see below, the correct order of administration is: H, T, P-1, P-2.

2. You will also find enclosed a Data Sheet. The numbers on the Data Sheet correspond to the numbers on the H-T-P booklets. Before giving out the booklets, please fill in the requested information for each child to whom the H-T-P is to be administered. The information required is:
   a. Last name and then first name and middle initial of child.
   b. Date the H-T-P is actually administered.
   c. Exact birthdate of each child; month, day, and year. (For example: 10-28-53.)
   d. Check R:
      (1) if the child has been referred for any type of psychotherapy or counseling;
      (2) if he has a severe behavioral problem which is known to the teacher or principal;
      (3) if he does not interact appropriately in the group or participate in classroom activity;
      (4) if he has been referred for psychological examination.

      If conditions 1 through 4 do not apply to the child, check NR.
   e. For I.Q., put in the I.Q. score the child received on the Kuhlmann-Anderson Test, 6th Edition, recently administered, and the date administered.
   f. Indicate child's grade if you have tested children in more than one grade.
   g. Indicate child's sex.
   h. Indicate name of school if you have tested children in more than one school in your district.
   i. While the test is being given, indicate which hand each child uses for drawing by placing R for right, or L for left in the column headed "Research Data."

3. Across the top of the Data Sheet you will find a place to fill in the name of your school district and the grade and age range of the group to whom the H-T-P is administered. (For example: Grade 2, age 7-3 to 7-9.) There is also a place to fill in your name, as the administrator of the test.

4. Bring the group into the room and seat them in alternate seats in alternate rows. Since classrooms usually have 4 or 5 rows of desks, and 7 or 8 desks in each row, this would mean that children would be seated at the 1st, 3rd, 5th, and 7th desks of the first row; the 2nd, 4th, 6th, and 8th desks of the second row; the 1st, 3rd, 5th, and 7th desks of the third row; etcetera: Hence, 16 or 20 children could be tested at one time, depending on whether there were 4 or 5 rows of desks.

5. When the children are seated, explain to them that you have been asked to do a special job which has to do with seeing how different children draw. The principal told you that these children had been selected to help you, and you and the principal think they will enjoy doing this. Their drawings have nothing to do with their classroom marks or with passing or failing.

6. Check to see that each child has a freshly sharpened #2 pencil and eraser.

7. Distribute the H-T-P booklets, telling the children not to pick up their pencils or write on the booklet until told to do so.

8. Tell the children to write their name on the strip of paper stapled to each booklet.

9. Tell them that they now will be making a drawing for you and you want them to make the best drawing they can. There will be no time limit, but you would like them to keep working so they can get finished. When they do finish the drawing, put their pencils down and you will then come over to them.

10. Tell them that if they have any questions while they are working, to raise their hand and you will come over to them.

11. Instruct them to place the booklets so that H is at the top, and then to draw a house. If a child asks if he may make a scene (add trees, flowers, people, etc.), tell him, "That is up to you."

12. Stand behind the group to observe them. If a child waits to see what others are doing, go over to him and quietly make sure he understands the directions. If he does, reassure him that you are interested in what he draws.

13. Do not allow a child to start over again on a different side of the booklet. Tell him that he may erase if he is not satisfied with what he started to draw.

14. As a child finishes, turn his booklet over so that T is at the top and instruct him to draw a tree. If a child wants to know "what kind of tree," "with leaves or without," etc., tell him, "That is up to you," or "Any way you want."

15. As a child finishes the tree, fold back his booklet for him so that P-1 is at the top of the page and tell him to draw a whole person - not just a face, but a whole person. If he wants to know "boy or girl," or "sitting or standing" or "side view or front view," etc., again tell him, "Whichever way you want." If he asks to make a stick figure, tell him that you do not want that, but want the best drawing he can make.

16. As a child finishes P-1, ask him what he drew. If he does not understand, ask if he drew a boy or man, or a girl or woman. If he replies girl or woman, tell him to draw a boy or man. If he replies boy or man, say, "Now draw a girl or woman." Note: If the sex of the drawing is not clear, when the child tells you the sex, mark the page ♂ for male, and ♀ for female.

17. As each child finishes, collect his H-T-P booklet. Give him a regular piece of paper and tell him to draw anything he wants until the rest of the children finish.

APPENDIX D

Significant t Values* for the 821 Qualitative Items and the Percentage** of Children Responding to Each Item

PICTURE	ITEM	% OF CHILDREN RESPONDING	I. Q.	HANDEDNESS	SEX	GRADE	GRADE SQUARE
HOUSE	100/1		0.95	0.26	-1.13	0.34	0.39
HOUSE	100/2/1		-1.54	-0.89	-1.44	-2.13	1.59
HOUSE	100/2/2		-0.39	-0.36	-1.21	0.83	-0.54
HOUSE	100/3	38.39	-0.91	-0.21	-2.52	-2.65	0.99
HOUSE	100/4		1.20	1.70	0.64	2.20	-2.06
HOUSE	100/5		-0.04	0.73	2.06	1.70	-1.92
HOUSE	100/6	31.39	1.51	-0.71	3.05	1.06	0.96
HOUSE	100/7		-0.34	0.62	1.32	-2.02	1.37
HOUSE	101	16.67	3.59	0.57	-0.86	1.21	-0.78
HOUSE	101/1		1.36	0.27	-0.45	1.87	-1.39
HOUSE	102		-2.01	0.16	0.50	0.09	0.60
HOUSE	102/1		1.37	-2.06	-1.35	2.26	-1.43
HOUSE	102/2		1.17	-1.02	0.76	0.52	-0.97
HOUSE	103	31.67	2.44	-0.78	-2.80	1.24	-0.68
HOUSE	104/2		0.73	-0.02	-0.71	2.31	-2.07
HOUSE	104/3	40.28	2.58	0.47	2.37	3.10	-1.05
HOUSE	105		1.93	-2.25	-2.01	0.09	0.74
HOUSE	105/1		0.53	-1.29	-0.95	-1.08	0.74
HOUSE	106/1		-0.78	-1.19	1.67	-0.04	0.02
HOUSE	106/2		0.38	-0.09	0.32	1.96	-1.02
HOUSE	107/1		0.12	-0.66	0.23	-0.82	1.44
HOUSE	107/2		-0.36	1.37	-0.36	-1.46	1.84
HOUSE	107/3	44.44	-2.93	-0.46	1.86	-1.66	2.17
HOUSE	107/4		0.20	0.80	0.32	-0.56	0.64
x HOUSE	107/5		0.60	-1.08	3.20	2.53	-1.56
HOUSE	108		1.80	-0.85	0.51	-2.53	2.49
HOUSE	109	41.94	3.27	1.92	5.42	3.05	-0.48
HOUSE	110		0.10	-0.61	0.67	0.00	0.25
HOUSE	111/1		0.38	0.59	1.66	1.03	-0.41
HOUSE	111/2		1.24	0.95	-2.14	1.64	-0.32
HOUSE	112/1		-0.02	1.08	-1.14	0.10	1.36
HOUSE	112/2		2.34	-0.03	0.13	0.53	-1.41
HOUSE	113/1	13.89	-3.49	0.22	1.70	0.62	0.79
HOUSE	113/2		0.73	0.33	0.14	-2.46	1.59
HOUSE	113/3		1.06	0.76	-1.47	0.82	-0.73
HOUSE	114	13.89	3.93	1.00	-0.94	2.21	0.01
HOUSE	115	12.78	4.30	-1.17	0.60	1.00	0.21
HOUSE	116		-1.12	0.04	0.38	2.17	-1.03
HOUSE	116-1	40.28	4.88	0.82	-0.70	0.88	-0.07
HOUSE	117		0.07	0.41	-1.43	0.83	-0.55
HOUSE	118		-0.72	-1.05	0.12	-1.80	1.72
HOUSE	119/1		-1.35	-0.32	0.33	0.57	0.16
HOUSE	119/2/A	40.28	-2.97	-0.56	1.01	-4.38	2.58
HOUSE	119/2/B	59.44	3.12	0.51	-1.12	4.56	-2.70
HOUSE	120/1		0.83	-1.00	-1.26	-0.19	1.12
HOUSE	120/3		0.74	-0.47	0.70	0.98	-1.02
HOUSE	120/4		-0.72	-1.32	-1.74	-1.33	0.27
HOUSE	121/1		-0.05	0.33	-1.63	-1.58	0.67
HOUSE	121/2		1.49	-0.06	-1.29	-0.87	0.77
HOUSE	121/3/1		1.48	-0.09	0.79	1.22	-0.52

* Those items which have t values at the one percent level of confidence (t ≥ 2.58) are underscored.

** Percent response ≤ 10% is indicated by x. Percent response ≥ 90% is indicated by xx.

PICTURE	ITEM	% OF CHILDREN RESPONDING	I. Q.	HANDEDNESS	SEX	GRADE	GRADE SQUARE
HOUSE	121/3/2		1.36	0.54	0.80	-0.02	0.57
HOUSE	121/3/3		0.47	-0.29	-0.68	-0.17	-0.32
HOUSE	121/3/4		0.10	-0.70	-1.15	0.18	0.29
HOUSE	122-1		0.65	0.85	0.51	0.44	-0.11
HOUSE	123/1		-1.07	-0.28	-0.33	0.51	-1.09
HOUSE	123/2		-0.71	0.58	0.57	0.86	-0.21
×HOUSE	124		-0.27	-4.04	1.21	-1.91	1.33
HOUSE	125/1		-1.51	0.11	1.80	-2.31	1.39
HOUSE	125/2/A		1.45	-1.85	-0.17	1.11	-0.83
HOUSE	125/2/B		-0.24	0.93	0.74	-0.85	0.29
HOUSE	126		0.50	-0.34	1.10	0.84	-0.31
HOUSE	127/1		-1.43	0.58	1.20	1.17	-1.61
HOUSE	127/2		1.81	-0.57	-0.41	0.61	1.30
HOUSE	128/1		-0.52	-1.54	-0.53	-0.02	0.30
HOUSE	128/2		1.16	-0.98	-1.55	-0.53	0.34
HOUSE	129/1		-0.75	0.61	-1.84	-1.66	1.62
×HOUSE	129/2		-2.78	-0.97	1.65	-2.42	1.47
HOUSE	129/3		-1.07	-0.16	0.58	-0.18	1.10
HOUSE	130/1		-0.76	1.18	1.58	-1.59	1.08
HOUSE	130/2		-0.44	1.15	1.67	-2.02	1.92
HOUSE	130/3/1		-1.13	-0.82	0.99	-0.50	-0.29
HOUSE	130/3/2		-0.35	-0.44	-0.27	-0.60	-0.04
HOUSE	131/1		-0.64	0.54	-0.59	0.81	-0.15
HOUSE	132/1		1.05	0.35	0.98	1.11	-1.52
HOUSE	132/2		1.32	0.48	1.32	1.09	-0.87
HOUSE	133		0.34	0.18	1.78	1.84	-0.43
HOUSE	134/1		0.18	-0.12	0.20	1.65	-0.51
HOUSE	134/2		-0.99	-0.50	0.77	1.27	-0.32
HOUSE	134/3	45.56	-4.67	-1.63	-0.44	-4.52	2.58
HOUSE	134/4		0.78	1.70	0.31	2.41	0.64
HOUSE	134/5		0.36	0.65	1.65	0.01	-0.09
HOUSE	134/6		0.52	-0.65	0.62	0.29	0.49
HOUSE	134-1		1.87	-1.64	-1.80	1.38	0.11
HOUSE	134-2/1	53.33	-2.37	-0.45	-2.70	-0.47	0.42
HOUSE	134-2/2		-0.49	0.02	0.43	-0.38	-0.41
×HOUSE	134-2/3		0.88	-2.93	0.79	0.54	0.24
HOUSE	134-3		1.58	0.46	-0.03	1.51	-2.08
HOUSE	134-4		-1.17	0.37	-0.59	0.19	0.47
×HOUSE	134-5		-0.38	-2.17	-2.97	0.03	-1.01
HOUSE	134-6		-0.06	0.67	-2.11	-0.92	0.69
HOUSE	134-7		2.44	-1.55	-0.11	0.49	0.88
HOUSE	134-8		-0.13	0.24	0.33	2.06	-0.86
×HOUSE	134-9		1.40	-2.86	-2.99	-1.39	1.38
HOUSE	134-10/1		-0.54	-0.93	-0.46	0.73	0.34
HOUSE	134-10/2		-1.48	-0.67	-1.42	-0.76	0.94
HOUSE	134-11	35.56	2.65	-0.95	-2.56	-0.14	1.82
HOUSE	134-12		2.07	-0.82	-0.79	0.91	0.78
HOUSE	134-13		0.16	-1.08	-0.62	-1.07	1.30
HOUSE	134-14		-0.77	-0.75	0.45	0.77	0.39
HOUSE	134-15/1		-0.14	-0.00	-0.14	-0.02	0.03

PICTURE	ITEM	% OF CHILDREN RESPONDING	I. Q.	HANDEDNESS	SEX	GRADE	GRADE SQUARE
HOUSE	134-15/2		-0.12	1.71	0.37	-0.49	0.70
HOUSE	134-15/3		-0.72	-0.51	-0.83	0.76	-2.17
HOUSE	134-15/4		0.38	-0.17	-0.46	-1.72	0.25
HOUSE	134-15/5	22.50	0.66	1.92	2.72	1.68	1.08
HOUSE	134-15/6		-0.86	-0.31	1.36	0.13	0.59
HOUSE	134-16		0.28	0.95	-2.03	1.08	-0.76
HOUSE	134-17	17.22	-1.97	-1.41	3.33	-0.00	0.73
HOUSE	134-19		1.94	-0.18	-2.04	1.46	-0.37
HOUSE	134-20		-2.57	0.33	-2.45	-0.71	0.52
HOUSE	134-21		2.51	-0.00	-0.91	0.93	-0.77
HOUSE	134-22		1.01	0.21	-1.89	1.48	-2.38
×HOUSE	134-23		2.26	0.81	-2.46	2.80	-2.52
HOUSE	134-24		0.34	0.05	-1.64	2.02	-1.19
HOUSE	134-25		0.54	-0.81	-2.39	1.27	-0.55
×HOUSE	134-26		2.84	0.91	-3.59	3.34	-1.71
HOUSE	134-27		-1.08	0.29	-1.00	0.15	0.63
HOUSE	134-28		0.71	0.87	-0.95	-0.12	0.05
HOUSE	134-29		0.43	-1.04	-1.51	-1.74	0.95
HOUSE	134-30/1		1.04	1.05	-0.81	-2.33	2.29
HOUSE	134-30/2	27.78	2.20	0.91	0.84	3.57	-1.33
HOUSE	134-31/1	65.56	-3.67	2.09	0.27	-0.29	0.00
HOUSE	134-31/2	19.17	1.57	2.28	0.58	2.61	-1.71
HOUSE	134-32		2.47	2.34	-1.70	2.17	-1.47
HOUSE	134-33	17.78	3.73	-0.16	1.53	1.14	1.00
HOUSE	134-34	44.44	0.85	1.00	-1.49	3.01	-2.70
HOUSE	134-35		0.51	1.54	0.08	2.11	-0.70
HOUSE	134-36		0.68	2.03	1.49	0.97	-0.19
TREE	200		1.11	0.78	0.26	-0.47	0.54
TREE	200/1		2.10	0.31	0.88	1.11	-0.18
TREE	201		2.15	-2.05	-0.88	1.24	-0.56
TREE	202		2.36	0.38	1.30	1.08	0.16
TREE	203/1		-0.42	0.28	2.11	2.05	-1.39
TREE	203/2	56.28	-2.13	-1.87	-2.95	-1.74	0.87
TREE	203/3		1.24	0.17	0.78	-1.50	0.91
TREE	203/4		2.47	2.13	0.70	2.43	-1.57
TREE	203/5		-1.38	1.08	-0.45	-1.37	1.68
TREE	204/2		1.30	0.68	-0.45	1.57	-1.37
TREE	204/3	32.78	2.94	1.19	-1.68	1.87	-0.36
TREE	204/4	29.44	-2.42	0.77	1.44	-2.89	1.48
TREE	204/5		-0.16	-1.59	0.01	-0.00	-0.77
TREE	204/6		0.46	0.45	-1.66	-0.32	-0.34
TREE	205/1		-0.95	1.04	0.98	0.87	-0.61
TREE	205/2	31.94	3.71	0.34	-0.85	3.11	-1.96
TREE	205/3		-0.83	-0.13	-2.05	1.69	0.15
TREE	205/4	29.17	-2.53	0.74	1.35	-2.96	1.46
TREE	205/5		0.30	-1.35	0.01	0.52	-1.09
×TREE	205/6		0.80	1.22	-2.54	1.75	-0.87
TREE	206/1	18.06	1.70	-0.24	-2.08	2.84	-0.47
TREE	206/2		2.11	1.69	1.69	0.14	0.20
TREE	206/3	30.83	-3.20	0.98	1.61	-2.46	0.99

PICTURE	ITEM	% OF CHILDREN RESPONDING	I. Q.	HANDEDNESS	SEX	GRADE	GRADE SQUARE
TREE	206/4		-0.19	0.11	0.53	0.17	-0.35
TREE	206/5		0.48	-1.55	-0.24	-0.57	-0.26
TREE	206/5/A		1.60	0.60	0.41	0.07	-0.16
×TREE	206/6/A1		-2.61	1.16	-1.84	-0.57	-0.30
×TREE	206/6/A2		-2.61	1.16	-1.84	-0.57	-0.30
TREE	206/6/B		-0.54	0.92	0.26	2.17	-1.89
TREE	206/7/A		1.63	0.02	0.35	0.48	0.40
TREE	206/7/B		-0.29	-0.83	1.89	-0.70	0.45
TREE	207		-0.95	0.46	0.43	-1.62	1.60
TREE	208		1.68	0.90	0.37	0.34	0.67
TREE	208/1		1.40	1.52	-0.02	-1.24	0.59
TREE	208-1	36.94	3.42	1.19	-0.18	0.84	-1.87
TREE	208-1/A		1.87	-0.72	-1.37	1.06	-1.79
TREE	208-1/B		0.74	0.77	0.80	0.19	-0.86
TREE	208-1/C		1.85	1.53	1.36	-0.31	-1.15
TREE	208-1/D	25.00	3.36	0.58	-0.41	1.41	-0.97
TREE	208-1/E		-0.24	-1.81	1.27	0.55	0.54
TREE	208-1/F		-0.84	-0.92	1.69	-1.47	0.23
TREE	208-1/G		1.10	1.08	0.49	0.82	-0.67
TREE	208-1/H		1.29	0.23	0.40	-0.34	-0.32
TREE	208-2		0.16	0.78	1.23	0.27	0.35
TREE	209/1	14.17	0.44	-0.55	0.62	-3.08	1.25
TREE	209/2		-0.95	0.51	-0.28	1.92	-0.70
TREE	210/1		0.88	0.77	-0.98	0.59	-0.03
TREE	210/2		-1.25	0.45	0.99	-1.52	1.09
TREE	210/3		1.86	-0.99	0.76	1.22	-0.30
TREE	211/1		-0.94	0.06	-0.24	-1.70	1.28
TREE	211/2/B		1.68	0.93	0.59	1.62	-0.81
TREE	212/1		-0.02	0.46	-0.01	0.89	-0.63
TREE	212/2		-1.02	1.41	0.33	-0.43	1.32
TREE	212/3		0.91	-1.15	-0.19	0.24	-1.26
TREE	212-1	17.22	-0.45	-1.98	-2.59	0.21	-1.21
×TREE	213		4.13	-0.73	-1.23	1.44	0.01
TREE	214		-0.52	-0.30	0.11	-0.23	0.16
TREE	214/1		2.42	0.89	-0.20	-0.38	-0.70
TREE	214/2		1.96	1.05	-0.12	1.87	-2.06
TREE	215/1		1.98	0.58	-0.03	1.49	-0.78
TREE	215/2		0.06	0.19	-0.97	1.67	-1.14
TREE	215/3	44.72	-1.83	-0.70	1.07	-2.89	1.70
TREE	216/1		-0.41	-0.41	0.10	1.32	0.17
TREE	216/2		-0.35	-0.27	0.53	0.21	2.05
TREE	216/3		0.93	1.55	2.49	2.36	-0.34
TREE	216/4		-1.58	-1.34	-2.29	-1.95	1.82
TREE	216/5/A	12.78	-0.55	0.10	-1.00	-2.84	1.67
TREE	216/5/B		-0.30	-1.80	0.03	1.40	-0.81
TREE	216/5/C		0.19	1.20	1.19	0.68	-0.45
×TREE	216/6		1.68	-2.73	-1.18	-1.68	1.56
TREE	216/7		-1.00	1.00	0.65	0.02	0.47
TREE	217		-1.14	-0.99	1.90	-2.17	0.98
TREE	217-1		0.70	-0.07	-0.60	-0.55	1.23

PICTURE	ITEM	% OF CHILDREN RESPONDING	I. Q.	HANDEDNESS	SEX	GRADE	GRADE SQUARE
TREE	217-2		-1.58	0.86	-0.71	0.92	-1.37
×TREE	217-3		-3.57	0.25	-1.48	-1.25	0.67
TREE	217-4/1		-2.15	0.58	-2.43	-0.77	-0.06
TREE	217-4/2		-0.04	0.74	0.08	-1.19	0.31
TREE	217-4/3		2.01	0.89	2.08	-0.80	-0.23
TREE	217-5		-0.29	-1.31	-0.79	-0.66	1.03
TREE	217-6	16.39	0.27	-0.85	-2.66	2.47	-3.63
TREE	217-7		0.36	-0.75	-1.53	0.20	0.47
TREE	217-8		-0.20	-0.42	0.71	-0.09	0.04
TREE	217-9		-0.05	0.53	-0.02	-0.35	-0.23
TREE	217-10		-0.04	-0.33	2.12	-0.35	0.78
TREE	217-11		1.35	0.12	-1.73	-0.22	0.20
TREE	217-12/1		1.04	0.61	0.31	1.78	-0.70
TREE	217-12/2		-1.67	-0.85	-0.35	1.18	-0.33
TREE	217-13		0.39	0.55	0.04	1.28	-0.53
TREE	217-14		1.17	-0.78	-1.64	-0.02	1.18
TREE	217-15		0.81	1.96	0.65	1.58	-1.12
TREE	217-17		1.92	0.49	-1.85	1.39	-1.42
TREE	217-18		0.19	-0.57	-1.28	0.97	-1.26
TREE	217-19		0.26	0.45	-1.70	-0.29	-0.76
TREE	217-20	25.28	1.72	1.34	-1.82	2.81	-1.90
TREE	217-23	27.78	2.52	-1.03	-2.45	3.46	-3.65
TREE	217-24	18.61	-0.63	1.03	0.83	1.91	-3.18
×TREE	217-25		-0.80	-0.07	2.77	2.37	-0.07
TREE	217-26		0.05	-0.53	-0.13	0.72	-0.72
TREE	217-27		-0.17	0.29	0.85	0.28	0.66
TREE	217-28		-0.49	-1.53	0.58	-0.73	1.93
TREE	217-29		-0.11	-1.02	-1.45	0.47	0.13
TREE	217-30		0.84	0.54	-0.89	0.52	-1.81
FEMALE	300/1		0.82	0.32	0.88	0.43	0.29
MALE	300/2/A	53.33	-2.00	0.44	0.75	0.42	-3.15
FEMALE	300/2/A	48.61	-2.11	-0.30	-3.82	-1.18	-1.57
MALE	300/2/B	46.67	2.00	-0.44	-0.75	-0.42	3.15
FEMALE	300/2/B	50.56	1.84	0.17	3.51	1.42	1.34
MALE	300/2/C		1.29	-1.58	-2.33	0.30	0.53
FEMALE	300/2/C		0.49	-0.96	0.47	0.83	-0.62
MALE	300/2/D		-0.03	-0.76	0.80	0.57	-0.33
MALE	300/3/A		1.25	0.69	-1.54	0.24	0.38
FEMALE	300/3/A		-1.36	0.44	-1.35	0.70	-0.39
MALE	300/3/B		0.95	0.26	-1.13	0.34	0.39
MALE	300/4/A		-0.52	-0.79	-2.47	-2.05	1.67
FEMALE	300/4/A		0.13	-0.31	-0.59	-2.11	1.24
MALE	300/4/B		-1.36	0.14	-0.79	0.77	-0.02
FEMALE	300/4/B		-1.11	-1.21	0.19	-0.13	-0.01
MALE	300/4/C		-1.07	1.20	-0.47	-0.41	1.30
FEMALE	300/4/C	13.06	-0.25	1.70	4.03	0.25	-0.22
MALE	300/4/D		0.09	-0.76	-1.14	-1.57	0.90
FEMALE	300/4/D		-0.00	0.26	0.12	-1.54	0.85
MALE	300/5/A		-0.27	-0.89	1.89	0.18	0.17
FEMALE	300/5/A		-0.13	-0.52	-1.81	-0.47	0.92

PICTURE	ITEM	% OF CHILDREN RESPONDING	I. Q.	HANDEDNESS	SEX	GRADE	GRADE SQUARE
MALE	300/5/B	4.72	0.05	-1.27	-0.99	3.12	-2.58
FEMALE	300/5/B	3.61	0.15	-1.50	-2.59	2.51	-2.23
MALE	301/1		-0.19	-0.42	1.00	1.05	-1.78
FEMALE	301/1		-0.02	-0.72	-0.01	1.06	-0.89
MALE	301/1/A		0.72	-1.27	-1.01	1.42	-0.84
FEMALE	301/1/A		-0.30	-1.51	-0.97	1.25	-1.02
MALE	301/2		-0.83	-1.74	-0.78	-1.79	-0.33
FEMALE	301/2		-0.94	-1.26	-1.72	-2.30	-0.05
MALE	301/3		-1.33	-1.36	-2.24	-2.16	-0.09
FEMALE	301/3	15.83	-1.77	-0.80	-3.03	-1.50	-1.00
MALE	301/4/A		1.54	1.17	0.78	0.05	0.31
FEMALE	301/4/A		1.22	0.88	1.06	-0.25	0.35
MALE	301/4/B		1.20	-0.42	0.73	0.17	-1.03
FEMALE	301/4/B	18.33	1.62	0.16	2.88	0.54	-1.41
MALE	301/5	34.44	-0.15	1.90	2.13	2.59	1.62
FEMALE	301/5	36.11	0.45	1.41	3.47	2.69	1.47
MALE	301/6/A		1.61	0.23	-1.07	0.18	-0.46
FEMALE	301/6/A		1.06	0.17	-0.47	0.76	-0.73
MALE	301/6/B		1.23	0.42	-2.55	1.35	-0.03
FEMALE	301/6/B		-0.18	1.18	-0.01	0.59	0.22
MALE	302/1		0.10	-1.38	-2.27	0.53	-0.79
FEMALE	302/1		0.54	-0.67	-1.44	0.02	-0.91
MALE	302/1/A		-1.13	0.20	-0.25	-1.79	1.85
FEMALE	302/1/A		-0.16	0.16	-0.26	-0.67	0.74
MALE	302/2		-0.72	-0.16	-0.35	-0.22	-1.42
FEMALE	302/2	29.17	-0.30	-0.20	-2.95	-1.19	-0.79
MALE	302/3		0.62	-0.11	1.09	1.34	-0.45
MALE	302/4		-2.26	-0.55	-1.31	-1.37	0.56
FEMALE	302/4		-1.54	1.74	1.78	-1.67	1.14
MALE	302/5	50.83	-0.51	0.45	-2.49	-3.44	0.48
FEMALE	302/5	46.67	-0.22	0.58	-4.72	-4.45	1.00
MALE	302/6		1.11	-0.91	0.15	0.88	0.43
FEMALE	302/6		0.50	0.45	1.99	0.77	0.45
MALE	302/7		-1.71	-0.90	-2.49	-0.94	1.07
FEMALE	302/7		0.32	0.58	-1.25	-0.66	0.31
MALE	302/8		1.14	-0.80	-0.73	0.82	0.88
FEMALE	302/8		-0.43	-0.76	-1.42	1.21	-0.49
MALE	303/1		0.14	0.48	0.06	1.37	-1.91
FEMALE	303/1		0.14	0.48	0.06	1.37	-1.91
MALE	303/2		0.43	1.43	-1.91	0.70	0.76
FEMALE	303/2		0.25	1.30	-0.70	1.47	0.14
MALE	303/3		0.95	0.75	2.06	0.89	0.76
FEMALE	303/3		-0.27	0.48	1.34	0.47	0.58
MALE	304/1	57.50	-0.27	0.06	3.38	-1.69	-0.86
FEMALE	304/1	24.44	-0.62	-1.01	-3.98	-1.49	0.13
MALE	304/2	11.67	1.76	-0.55	-3.60	2.21	0.47
FEMALE	304/2		1.03	-1.45	-1.35	1.71	-0.67
xMALE	304/3		0.74	-0.99	-3.51	0.16	0.41
xFEMALE	304/3		2.75	-0.90	-3.19	-0.89	0.55
FEMALE	304/4		0.37	-1.36	-1.34	0.03	0.35

PICTURE	ITEM	% OF CHILDREN RESPONDING	I. Q.	HANDEDNESS	SEX	GRADE	GRADE SQUARE
xFEMALE	304/5		1.41	1.07	-2.80	0.08	0.59
MALE	305		1.61	0.95	1.70	0.22	-0.05
xFEMALE	305		1.49	0.45	2.83	-0.49	0.54
xMALE	305/1		-1.25	-1.92	-3.74	-0.60	-0.77
FEMALE	305/1		-1.39	-0.16	-2.15	-0.27	-0.40
xMALE	305/2	44.17	0.76	-0.36	4.33	1.96	1.30
xFEMALE	305/2	51.11	0.04	-1.17	6.33	2.93	0.20
MALE	305/3		-1.08	0.29	-1.00	0.15	0.63
FEMALE	305/3		-1.72	-0.08	2.14	0.29	-0.19
MALE	305/4		2.30	0.62	0.76	2.43	-0.32
FEMALE	305/4		0.82	0.32	0.88	0.43	0.29
MALE	305/5		0.92	-0.20	-1.93	1.41	0.13
xFEMALE	305/5		0.83	-2.83	0.78	-1.23	0.81
MALE	305/6		0.82	0.32	0.88	0.43	0.29
xFEMALE	305/7		-0.37	1.16	-4.09	-0.68	0.83
MALE	306/1	20.28	-1.76	-0.33	-3.30	-4.30	1.66
FEMALE	306/1	19.44	-1.28	0.33	-3.39	-3.03	1.22
MALE	306/2		-0.40	-0.01	2.00	-1.70	0.90
FEMALE	306/2		-0.33	-1.24	-0.23	-1.99	1.64
MALE	306/3	76.94	1.83	0.23	2.41	4.56	-1.79
FEMALE	306/3	77.50	1.21	-0.01	3.19	3.53	-1.51
MALE	306/4		-1.17	0.81	0.78	0.23	-0.57
FEMALE	306/4		-0.97	0.72	1.98	-0.65	-0.24
MALE	306/5		0.91	0.20	0.46	1.32	0.37
FEMALE	306/5		0.40	-1.80	1.83	1.55	0.45
MALE	307/1		-0.86	0.89	0.32	-2.54	2.08
xMALE	307/2		0.36	-1.67	1.35	-2.69	2.09
xFEMALE	307/2		0.67	-2.44	0.71	-2.74	1.86
MALE	307/3	38.06	-1.61	-1.47	-4.94	-3.24	0.07
FEMALE	307/3	40.28	-1.59	-1.53	-5.40	-2.84	-0.26
MALE	307/4	58.89	1.73	1.70	4.46	4.64	-1.19
FEMALE	307/4	58.61	1.44	2.10	5.25	3.47	-0.16
MALE	307/5		0.14	0.82	1.22	-0.52	0.60
MALE	307/6		-0.85	0.33	-0.90	0.83	-1.17
xMALE	307/7		-1.03	-1.22	-0.92	-2.74	1.98
FEMALE	307/7		-0.47	-0.67	-1.42	-0.37	0.02
MALE	307/8		-1.71	0.64	-0.46	0.08	-0.73
MALE	307/9		-1.26	-0.54	1.85	0.71	0.44
xFEMALE	307/10		0.09	0.61	3.36	1.91	0.70
MALE	308/1	61.11	-3.31	-0.19	-2.09	-4.42	1.10
FEMALE	308/1	62.22	-2.62	-0.91	-3.95	-2.74	0.11
MALE	308/2	36.67	3.55	0.27	2.58	3.84	-0.53
FEMALE	308/2	35.56	2.88	1.00	4.24	2.21	0.27
xMALE	308/3		0.88	-2.93	0.79	0.54	0.24
FEMALE	308/3		-0.28	-3.04	2.31	-0.67	0.15
MALE	308/4		-1.79	-1.68	2.56	0.43	-1.38
FEMALE	308/4		-1.89	-0.88	1.19	1.87	-2.58
MALE	308/5		-0.35	-1.74	-0.26	-2.09	2.03
FEMALE	308/5		-0.82	-0.20	0.18	-2.56	2.31
MALE	309/1		-0.87	-0.92	-0.97	0.64	-1.37

PICTURE	ITEM	% OF CHILDREN RESPONDING	I. Q.	HANDEDNESS	SEX	GRADE	GRADE SQUARE
×FEMALE	309/1		-1.68	1.06	-3.02	-3.01	2.24
MALE	309/2		0.77	0.42	0.86	-1.33	0.85
FEMALE	309/2		0.77	0.42	0.86	-1.33	0.85
×MALE	309/3		-1.79	-2.74	0.24	-2.59	1.27
×FEMALE	309/3		-0.64	-2.55	-0.98	-3.43	1.89
MALE	309/4		-0.39	0.76	-2.24	1.79	-0.35
FEMALE	309/4		-0.13	-0.08	-0.95	1.85	-1.28
MALE	310/1		0.60	-0.34	1.83	-0.87	0.49
FEMALE	310/1		-0.63	0.54	0.66	-1.04	0.35
MALE	310/2/A		-0.88	-0.02	-1.66	0.35	-1.51
FEMALE	310/2/A		0.76	0.57	-2.03	-1.29	-0.35
MALE	310/2/B		0.91	0.84	-0.59	0.46	0.64
FEMALE	310/2/B		0.40	0.51	-0.73	0.54	0.76
MALE	310/3		1.85	1.87	-1.27	2.52	-0.72
FEMALE	310/3		0.76	1.45	0.21	0.34	0.76
MALE	310/4		0.80	1.01	1.36	-1.93	0.82
FEMALE	310/4		-1.23	1.04	-0.33	-1.92	1.46
MALE	310/5		-0.75	-1.19	-1.39	0.68	-1.28
FEMALE	310/5		0.44	-0.06	-2.12	-0.38	-0.53
MALE	310/6		0.28	-1.33	1.56	1.61	1.15
FEMALE	310/6		2.18	-1.64	3.26	2.55	-0.20
MALE	311/1		1.22	0.55	2.30	-2.34	1.19
FEMALE	311/1		-1.56	1.14	0.34	-2.25	1.24
MALE	311/2		-0.67	-1.80	-0.16	-0.68	-0.34
FEMALE	311/2		-0.07	-0.19	0.59	-2.02	0.67
MALE	311/3		0.62	-1.35	-2.37	0.06	-0.93
FEMALE	311/3		0.43	-1.37	-2.07	-0.43	-0.60
MALE	311/4		-2.44	0.14	0.24	0.82	-0.44
FEMALE	311/4		-0.66	-0.53	-1.26	1.50	-1.03
MALE	311/5		1.96	0.47	-1.79	0.97	0.37
FEMALE	311/5		1.81	0.34	1.61	1.17	0.16
MALE	311/6		0.98	-0.33	-1.21	1.61	-1.16
FEMALE	311/6		-0.84	1.20	0.52	0.75	-0.14
MALE	311/7		-1.22	-1.32	-0.93	0.89	-1.62
FEMALE	311/7		-0.12	-0.48	-0.61	0.03	-1.09
MALE	311/8		0.18	0.44	-2.55	0.15	0.11
FEMALE	311/8		0.44	-0.98	-1.54	-0.81	0.99
MALE	311/9/1		-0.33	-2.02	-2.06	-1.02	0.07
FEMALE	311/9/1		0.47	-1.40	-0.51	-1.57	0.28
MALE	311/9/2	24.72	-3.27	-0.55	-2.61	-0.18	-0.43
FEMALE	311/9/2		-1.39	0.58	-2.18	-0.76	0.12
MALE	312		0.47	0.61	1.12	2.43	1.35
FEMALE	312	12.78	0.22	0.47	4.25	2.56	-0.32
×MALE	312-1		-0.81	-2.92	-1.00	0.95	-1.24
×FEMALE	312-1		-0.81	-2.92	-1.00	0.95	-1.24
MALE	312-2	18.06	-0.94	1.74	0.59	3.21	-3.08
FEMALE	312-2		0.05	1.70	0.90	1.24	-0.25
MALE	312-3		-0.39	-0.15	1.25	-0.09	0.97
FEMALE	312-3		-0.52	-0.98	2.30	1.05	0.34
FEMALE	313/1		0.05	0.52	1.49	1.44	-1.99

PICTURE	ITEM	% OF CHILDREN RESPONDING	I. Q.	HANDEDNESS	SEX	GRADE	GRADE SQUARE
FEMALE	313/2		0.77	0.42	0.86	-1.33	0.85
xMALE	313/3		0.41	-0.99	-0.39	-4.37	2.26
xFEMALE	313/3		-0.17	0.44	-0.73	-3.76	2.11
MALE	313/4		0.16	-0.38	-0.58	0.42	0.71
FEMALE	313/4		0.95	0.26	-1.13	0.34	0.39
MALE	313/5		0.59	-1.42	-1.16	-1.70	1.17
FEMALE	313/5		-1.92	0.74	-1.31	-0.47	1.06
xMALE	313/6		-0.77	-1.97	-2.09	2.16	-2.79
FEMALE	313/6		-0.08	0.26	-1.28	-0.06	-0.33
MALE	314		2.30	0.16	-1.28	1.54	0.93
FEMALE	314		1.77	-0.91	1.77	0.37	-0.07
xMALE	315/1		-0.67	-0.58	-1.77	-4.03	2.45
FEMALE	315/1		-0.36	0.35	-1.13	-2.33	1.35
MALE	315/2/A		-0.62	0.92	-1.27	-1.06	1.29
FEMALE	315/2/A		-2.18	1.06	-0.38	-2.28	1.18
MALE	315/2/B		-0.21	0.82	-0.95	-0.48	0.89
FEMALE	315/2/B		-1.46	0.82	-0.42	-0.46	0.10
MALE	315/3		0.15	-0.47	1.00	0.66	-1.92
FEMALE	315/3		0.55	-1.56	-1.43	0.06	-1.40
MALE	315/4		0.58	0.73	0.72	1.70	0.39
FEMALE	315/4		-0.08	0.90	1.99	1.49	0.72
MALE	315/5		0.47	0.58	2.22	0.57	-0.69
xFEMALE	315/5		-2.73	-1.10	1.45	0.92	-0.22
MALE	315/6		-2.40	0.51	-0.25	-0.20	-0.62
FEMALE	315/6		-1.50	1.17	-0.34	-0.31	-0.05
xMALE	316/1		0.88	-0.75	-2.48	-2.92	1.89
xFEMALE	316/1		-0.25	-0.79	-3.27	-3.30	2.05
MALE	316/2	23.61	-1.43	-0.66	-2.85	-2.65	1.11
FEMALE	316/2	27.78	0.68	-0.86	-3.38	-0.25	-1.50
MALE	316/3		-1.00	-0.87	2.44	-0.07	-0.54
FEMALE	316/3		-0.76	0.42	1.02	-1.39	1.29
MALE	316/4	30.56	2.05	2.08	1.54	4.14	-1.45
FEMALE	316/4	36.67	0.23	0.76	3.68	3.14	-0.81
MALE	316/5		1.62	-0.60	-1.18	2.11	0.50
FEMALE	316/5		0.81	-0.45	-0.60	2.18	-0.25
MALE	316/6		1.72	-1.38	-1.14	2.13	-0.31
FEMALE	316/6		0.90	0.36	-1.14	-1.41	0.96
MALE	316/7		-0.78	0.82	-0.58	-1.78	1.87
MALE	316/8		-0.09	0.39	-1.52	0.35	0.73
MALE	316/9		0.11	-1.87	-1.51	0.91	-0.59
FEMALE	316/9		0.53	0.52	-0.66	0.93	-0.29
MALE	316/10		1.14	0.49	0.81	1.24	0.80
FEMALE	316/10		0.11	0.72	0.29	-0.59	0.74
MALE	317		1.91	0.67	0.34	0.70	0.91
FEMALE	317		1.51	0.09	0.58	1.15	0.18
MALE	317-1		-0.83	0.24	-0.72	0.02	0.61
FEMALE	317-1		2.08	0.17	1.56	-1.88	1.56
xMALE	317-2		0.35	-0.38	-2.32	2.95	-0.59
FEMALE	317-2		-0.16	0.41	0.45	1.31	-0.94
MALE	317-3		1.39	1.71	-0.26	0.56	-0.22

PICTURE	ITEM	% OF CHILDREN RESPONDING	I. Q.	HANDEDNESS	SEX	GRADE	GRADE SQUARE
FEMALE	317-3		1.16	-1.31	-0.18	-0.13	1.06
MALE	317-3/1		1.98	0.55	-0.62	1.84	-2.54
×FEMALE	317-3/1		1.22	0.67	0.02	2.06	-2.85
MALE	317-4		-1.10	-1.76	0.68	-0.41	0.87
MALE	317-5		0.14	-0.34	-0.58	-0.24	0.92
FEMALE	317-5		-1.08	0.29	-1.00	0.15	0.63
MALE	317-6		0.95	0.26	-1.13	0.34	0.39
MALE	317-7		-1.20	0.35	1.01	0.24	0.53
MALE	318/1	60.83	-3.27	0.73	-0.70	-4.91	-1.34
FEMALE	318/1	44.72	-1.77	1.10	-4.47	-3.76	-0.46
MALE	318/2	25.56	1.44	-1.42	1.07	2.95	-0.05
FEMALE	318/2		-0.67	-0.75	1.20	1.34	-0.61
MALE	318/3	13.06	2.12	1.38	-0.81	2.63	2.00
FEMALE	318/3	23.06	2.53	0.23	3.47	3.06	1.33
MALE	319/1		0.05	0.19	-1.16	-2.54	1.47
FEMALE	319/1		-1.52	0.29	1.79	-1.41	1.43
MALE	319/2	26.67	-2.74	0.63	2.87	0.86	-0.76
FEMALE	319/2	27.50	-1.67	0.38	0.91	1.47	-3.42
×MALE	319/3		3.31	0.14	-0.55	0.75	0.65
FEMALE	319/3		2.07	-0.41	-1.37	1.22	0.15
MALE	319/4		0.49	-0.52	-1.51	0.57	-0.54
FEMALE	319/4		1.21	-0.39	-1.54	-0.92	1.93
MALE	319/5		-2.36	-0.16	1.25	-1.92	0.84
FEMALE	319/5	32.22	-3.19	0.05	2.07	-2.54	1.65
MALE	320/1	32.50	-1.84	0.45	-1.79	-3.80	1.08
FEMALE	320/1		1.20	1.08	-1.37	-1.76	-0.68
MALE	320/2		1.67	-0.51	2.28	1.26	0.58
FEMALE	320/2		0.56	0.46	1.69	0.78	1.55
MALE	321		1.66	0.00	0.08	-0.62	1.35
FEMALE	321		1.00	0.28	0.56	-0.80	0.48
MALE	321/1		0.10	-0.04	-1.76	-2.11	0.89
FEMALE	321/1	20.56	-1.53	-1.29	-3.21	-0.19	-1.06
MALE	321/2		0.34	-0.78	0.46	-0.30	0.96
FEMALE	321/2		0.28	0.87	2.32	2.27	-0.78
MALE	322/1		1.34	0.27	-0.55	-1.80	0.36
FEMALE	322/1		-0.31	1.45	0.43	-1.78	0.49
MALE	322/2		-1.58	-1.26	-0.06	-0.39	0.11
×FEMALE	322/2		-1.18	-2.70	-0.52	-2.16	1.17
MALE	323/1/A	44.44	-2.19	0.20	5.71	-5.02	2.19
FEMALE	323/1/A	44.44	-2.96	-0.96	3.42	-4.01	0.96
MALE	323/1/B		0.83	-0.95	0.06	1.98	-0.38
FEMALE	323/1/B		0.90	-0.46	1.94	0.21	0.57
MALE	323/2/A	20.00	-1.55	1.42	1.03	-2.89	0.93
FEMALE	323/2/A	21.67	-1.22	0.34	-0.14	-2.66	1.09
MALE	323/2/B	50.28	0.30	-2.91	0.91	-0.96	2.39
FEMALE	323/2/B		-0.42	-1.12	1.24	2.43	-0.75
MALE	323/2/C	26.39	2.37	1.12	-0.63	3.07	-2.40
FEMALE	323/2/C		1.70	0.87	-1.27	0.10	-0.44
MALE	323/3/A		-1.00	0.24	-0.02	-1.33	0.25
FEMALE	323/3/A	38.61	-0.37	0.85	-1.43	-2.82	0.91

PICTURE	ITEM	% OF CHILDREN RESPONDING	I. Q.	HANDEDNESS	SEX	GRADE	GRADE SQUARE
MALE	323/3/B		0.64	-0.60	0.20	-0.22	-0.06
FEMALE	323/3/B		0.17	0.49	1.01	0.22	-0.70
MALE	323/3/C		0.59	0.24	0.03	2.46	-0.73
FEMALE	323/3/C	49.44	0.76	-1.46	1.69	3.55	-1.14
MALE	323/4/A	11.67	-1.89	0.38	-3.57	-2.47	0.41
×FEMALE	323/4/A		-0.03	-0.68	-3.02	-4.21	2.24
MALE	323/4/B		-0.68	-1.34	2.06	-0.69	-0.30
FEMALE	323/4/B	29.72	-1.01	0.36	3.29	-1.11	1.13
MALE	323/4/C		0.57	-0.51	-1.13	-1.72	1.18
FEMALE	323/4/C		1.74	0.31	0.01	0.57	-0.14
MALE	323/4/D	69.44	1.90	1.00	1.93	3.62	-0.95
FEMALE	323/4/D	55.56	0.28	-0.28	-1.52	2.72	-1.77
MALE	323-1		-1.02	-0.66	-1.48	1.70	-2.52
×FEMALE	323-1		-2.30	0.48	-2.04	2.67	-3.87
MALE	324/1	38.33	-0.21	-1.04	-3.97	-3.93	2.18
FEMALE	324/1	38.61	-0.62	-0.97	-2.88	-3.63	2.12
×MALE	324/2		0.59	-1.14	1.88	-2.89	1.54
FEMALE	324/2		0.29	-1.49	0.94	-1.60	0.48
MALE	324/3		-1.01	0.39	-1.62	1.49	-1.68
×FEMALE	324/3		-0.50	-0.40	-2.37	2.11	-2.98
MALE	324/4	52.22	1.24	1.08	3.98	4.16	-1.57
FEMALE	324/4	51.39	1.54	1.35	4.56	3.98	-1.39
MALE	325/1		0.74	1.27	-0.40	0.30	-0.83
FEMALE	325/1		-0.47	1.42	-0.35	-0.59	-0.11
MALE	325/2	23.89	-0.35	-1.13	-5.15	-2.25	0.65
FEMALE	325/2	26.11	-0.19	-0.80	-4.90	-0.25	-1.22
MALE	326/1/A	19.72	-3.07	-0.81	-1.91	-5.01	2.45
FEMALE	326/1/A	23.61	-1.03	-0.98	-1.64	-3.69	1.34
MALE	326/1/B		0.18	0.40	1.29	0.25	-1.74
FEMALE	326/1/B		0.55	-0.59	0.89	0.42	-1.40
MALE	326/1/C1		0.10	-0.53	-0.32	0.96	-0.11
FEMALE	326/1/C1		0.13	-0.06	-2.04	0.90	-0.09
×MALE	326/1/C2		0.88	-3.14	0.83	1.61	-0.08
FEMALE	326/1/C2		-0.15	-2.25	-0.21	1.19	-0.46
MALE	326/1/D		-0.75	-0.48	1.28	1.80	0.77
×FEMALE	326/1/D		-1.58	0.78	2.73	2.18	0.12
MALE	326/2/A		0.23	0.44	-1.36	1.32	-1.84
FEMALE	326/2/A		-0.59	0.57	-1.76	-0.25	0.24
MALE	326/2/B		0.43	-1.19	0.43	-0.99	0.27
FEMALE	326/2/B		-0.06	-0.57	-0.93	1.28	-0.33
MALE	326/2/C1		0.53	0.52	-0.66	0.93	-0.29
FEMALE	326/2/C1		1.50	-1.29	0.30	-0.26	0.86
MALE	326/2/C2		-0.85	0.33	-0.90	0.83	-1.17
MALE	326/2/D		0.17	0.88	0.27	0.67	-0.00
FEMALE	326/2/D		-0.60	-0.68	1.30	1.32	-0.63
MALE	327/1		-1.12	-0.02	-1.76	-0.93	0.52
FEMALE	327/1		0.76	1.28	-0.97	-0.22	-0.64
MALE	327/2	24.17	-2.49	-1.07	-2.93	-0.04	-0.47
FEMALE	327/2		-1.21	-0.73	-2.04	-1.38	0.78
MALE	328		0.33	1.22	0.48	-1.71	0.70

PICTURE	ITEM	% OF CHILDREN RESPONDING	I. Q.	HANDEDNESS	SEX	GRADE	GRADE SQUARE
FEMALE	328		-0.04	-0.95	-2.16	-0.87	0.66
MALE	329/1		-0.09	-0.48	-0.94	-0.16	0.13
FEMALE	329/1		-0.13	0.78	-0.07	1.27	-0.35
MALE	329/2/A		-0.56	-1.37	-1.83	-1.54	-0.25
FEMALE	329/2/A		-2.23	-0.54	-1.76	-1.84	-0.01
MALE	329/2/B		1.44	0.56	0.90	1.08	-0.77
FEMALE	329/2/B		1.60	0.42	0.51	1.52	-0.75
MALE	329/2/C		-1.07	0.68	1.21	0.60	1.09
FEMALE	329/2/C		0.90	0.13	1.45	0.37	0.85
MALE	329/2/D		0.23	-0.94	-2.27	-1.15	1.93
FEMALE	329/2/D		-0.49	0.54	1.12	-1.96	2.42
MALE	329/2/E		-1.38	0.26	0.13	-2.08	2.11
FEMALE	329/2/E		-0.66	-0.25	-0.54	-1.65	1.44
MALE	329/3		1.03	-0.91	-1.15	-0.39	-0.42
FEMALE	329/3		-0.02	-1.75	-0.09	-0.28	-0.27
MALE	330/1/1		0.83	-0.85	-0.21	-1.57	0.72
FEMALE	330/1/1		0.35	0.62	-0.74	-1.49	1.41
MALE	330/1/2		0.17	-0.84	-1.92	-0.16	0.40
×FEMALE	330/1/2		0.61	-0.37	-2.88	-0.60	1.00
×MALE	330/2		2.93	1.64	0.19	0.61	0.63
FEMALE	330/2		1.91	0.51	0.60	1.29	0.20
FEMALE	330/3		1.10	0.60	1.23	-1.89	1.21
MALE	330/4		0.90	0.36	-1.14	-1.41	0.96
FEMALE	330/4		0.90	0.36	-1.14	-1.41	0.96
MALE	331	18.61	3.17	1.72	-0.45	2.07	-0.28
FEMALE	331		2.45	2.15	2.02	1.25	-0.19
MALE	331/1		0.28	0.73	-0.58	0.19	0.44
FEMALE	331/1		-0.76	0.69	0.55	-1.16	0.44
MALE	331/2	67.78	-2.63	-1.50	0.76	-2.00	-0.01
FEMALE	331/2	71.67	-2.50	-2.60	-0.54	-1.31	0.12
FEMALE	331/3		0.90	0.36	-1.14	-1.41	0.96
×MALE	332/1		-1.46	0.21	-1.57	-5.39	3.70
×FEMALE	332/1		-2.72	0.27	-4.57	-3.22	1.54
MALE	333/1		-1.01	0.57	0.16	0.25	-0.78
FEMALE	333/1		-1.03	1.03	-0.92	-0.24	-0.63
MALE	333/3		-0.12	0.39	-1.63	-1.28	1.00
FEMALE	333/3		0.78	-0.07	0.76	-1.26	0.75
	334		–.91	–1.62	–1.17	2.19	2.46
FEMALE	335	14.72	-1.26	-0.05	5.72	0.62	1.41
MALE	336		-1.21	-0.44	-1.74	-0.48	0.25
FEMALE	336		-2.01	1.52	-2.42	-0.26	-0.33
MALE	337	13.33	3.45	-1.08	1.39	3.34	-1.84
FEMALE	337	15.56	1.92	-0.54	3.69	2.43	-0.13
MALE	338		-0.61	-0.23	-2.49	1.37	-1.12
FEMALE	338	11.11	-1.53	0.58	-3.59	0.99	-0.10
FEMALE	339		0.56	-1.34	-0.72	0.99	-0.31
MALE	340		0.53	0.76	-1.69	1.10	0.72
FEMALE	340		-0.13	-1.36	-0.38	-0.57	1.22
MALE	341		-0.42	-0.63	-2.31	-0.18	-1.11

PICTURE	ITEM	% OF CHILDREN RESPONDING	I. Q.	HANDEDNESS	SEX	GRADE	GRADE SQUARE
FEMALE	341	-8.36	0.78	-2.48	-2.19	-0.09	-1.27
MALE	342	-37.05	0.97	-2.03	1.03	-2.25	1.79
×FEMALE	342	-41.51	0.67	-2.44	0.71	-2.74	1.86
MALE	343	-6.76	1.41	-0.64	-0.43	2.09	-0.16
FEMALE	343	-6.75	-0.00	-1.08	0.71	1.39	0.20
MALE	344	-36.90	0.32	-0.77	-0.62	1.03	0.17
FEMALE	344	-48.26	-0.64	0.54	-0.59	0.81	-0.15
MALE	345	-22.82	-0.91	-0.84	-0.33	1.65	-1.50
FEMALE	345	-25.61	-1.31	1.12	-1.25	0.15	-0.66
MALE	346/1	-35.31	-0.39	0.82	0.67	0.03	1.33
FEMALE	346/1	-32.97	-0.82	0.90	1.01	0.12	1.44
MALE	346/2	-41.92	1.86	0.65	-0.21	0.23	0.06
FEMALE	346/2		-1.45	0.48	0.08	0.75	-0.46
MALE	347		0.85	1.28	-1.21	0.33	1.06
FEMALE	347		1.26	1.75	0.88	-0.26	2.20
MALE	348		-0.85	0.91	-1.50	0.56	0.38
FEMALE	348		-0.05	0.90	-1.50	0.87	-0.35
×MALE	349	66.11	-0.47	0.56	2.92	-1.40	-1.78
×FEMALE	349	45.83	-1.24	-0.75	-3.57	-0.51	-0.86
MALE	350		-0.56	0.24	0.81	-0.30	-0.01
FEMALE	350		-0.79	0.78	2.21	1.02	0.16
MALE	351		-0.08	1.01	0.55	-0.83	1.66
FEMALE	351		0.25	1.14	1.94	0.21	0.55
×MALE	352/1		-0.67	-2.64	1.41	0.49	-1.20
×FEMALE	352/1		-0.67	-2.64	1.41	0.49	-1.20
MALE	352/2	25.00	1.36	-0.45	-10.24	0.51	-0.30
FEMALE	352/2	38.89	0.50	1.25	12.99	0.18	0.51
×MALE	352/3		-0.09	-0.81	3.29	-0.94	-0.03
×FEMALE	352/3		-0.72	1.32	-6.91	0.36	0.10
MALE	353/1		-1.62	0.18	1.81	-0.13	-1.24
FEMALE	353/1		0.27	-1.66	-2.49	0.19	-1.46
MALE	353/2	24.17	3.27	2.20	1.71	-0.15	0.22
FEMALE	353/2	20.56	2.94	1.68	0.69	-0.29	0.48
MALE	353/3		0.07	-0.06	1.72	0.99	0.04
FEMALE	353/3		2.10	-0.67	2.05	2.35	-1.82
MALE	353/4		1.77	-1.51	-0.04	0.64	-0.17
FEMALE	353/4		2.03	-0.20	-0.25	0.55	-0.50
MALE	354/1		0.94	0.70	0.65	-1.65	0.12
FEMALE	354/1		0.92	-0.87	-1.74	-1.44	-0.17
MALE	354/2		-1.36	-1.47	0.28	-0.73	0.57
FEMALE	354/2		-0.91	0.01	-0.13	0.78	0.56
MALE	354/3		-0.45	-0.33	-0.63	2.04	-0.41
FEMALE	354/3		-0.90	0.82	1.49	1.30	-0.07
MALE	355		1.65	0.11	1.77	-0.87	0.60
FEMALE	355		0.06	-0.61	1.47	-1.13	0.98
MALE	355/1		1.63	0.46	1.13	-1.36	0.43
FEMALE	355/1		1.65	-0.52	-0.06	-1.07	0.83
MALE	357		-0.56	-0.66	0.38	0.49	-0.33
FEMALE	357	16.11	0.24	1.11	5.69	2.52	-0.16
MALE	358		0.97	0.76	1.96	0.64	0.30

PICTURE	ITEM	% OF CHILDREN RESPONDING	I. Q.	HANDEDNESS	SEX	GRADE	GRADE SQUARE
FEMALE	358		0.92	1.17	1.01	1.47	-0.54
MALE	359	27.78	-1.08	0.92	0.12	3.87	-1.67
FEMALE	359		-0.17	0.10	-0.35	0.54	0.83
MALE	360/1		-0.56	-0.51	-0.74	0.71	-1.00
FEMALE	360/1		0.01	-0.53	-1.34	1.23	-0.50
MALE	360/2		0.24	-0.35	-0.47	-0.73	0.11
FEMALE	360/2		1.02	0.56	-1.43	1.10	-0.81
MALE	360/3		0.30	0.41	-0.03	0.92	-0.14
FEMALE	360/3		0.59	-0.39	1.18	0.51	0.70
MALE	360/4		0.86	-0.87	-1.75	0.28	-0.21
FEMALE	360/4		-0.16	-0.97	-0.81	-0.06	0.28
FEMALE	361	20.83	-0.74	0.18	6.22	0.56	0.60
xMALE	362		-0.01	1.17	3.92	-0.46	0.61
FEMALE	362	20.56	-1.36	0.15	4.35	-0.98	1.55
FEMALE	363/1		2.24	-1.09	2.08	1.78	0.14
MALE	363/2		0.29	1.32	1.64	1.22	0.84
FEMALE	363/2		1.60	1.33	1.67	2.03	-1.22
MALE	364	17.78	3.18	-0.24	-0.18	4.29	-3.01
FEMALE	364	20.00	2.69	0.95	-2.87	4.49	-3.34
MALE	365		2.33	0.20	-0.42	1.32	0.60
FEMALE	365	30.83	2.06	-0.31	3.05	-0.09	0.41
MALE	366	50.83	2.87	0.80	0.08	3.95	-2.95
FEMALE	366	50.00	2.89	-0.30	2.46	3.21	-1.48
MALE	367	41.11	3.11	0.18	0.14	2.14	-0.00
FEMALE	367	46.94	1.73	1.82	4.17	3.66	-2.07
MALE	368/A	25.00	-2.46	-0.92	-5.57	-2.69	1.07
FEMALE	368/A	11.39	-2.50	-1.38	-4.61	-3.29	1.48
MALE	368/B	53.06	2.14	0.96	4.83	2.44	-1.48
FEMALE	368/B		0.43	0.70	0.14	-0.73	0.06
MALE	368/C		0.33	-0.45	-1.09	0.70	-1.18
FEMALE	368/C		0.06	-0.75	-1.87	1.18	-1.17
MALE	368/E		-0.02	1.09	0.14	0.90	0.56
FEMALE	368/E		0.77	-0.28	1.67	-0.08	0.71
MALE	0/A		-0.94	-0.61	-2.03	2.27	-1.33
FEMALE	0/A		1.45	-0.72	0.09	1.92	-1.59
MALE	0/B		1.89	-0.26	-2.55	1.10	-0.15
FEMALE	0/B		1.88	-0.36	0.95	1.42	-0.69
FEMALE	B/2		0.00	-0.75	-1.04	-0.77	1.57
MALE	B/3		0.35	0.70	1.37	-0.73	1.05
xxFEMALE	B/3		1.68	-1.06	3.02	3.01	-2.24
MALE	B/4/A		0.95	-0.65	-1.67	0.50	-1.10
FEMALE	B/4/A		-0.82	-0.32	-0.88	-0.43	-0.29
MALE	B/4/B		0.79	-0.63	0.60	2.29	-0.91
FEMALE	B/4/B		0.14	0.54	-0.33	0.24	1.07
MALE	B/4/C	36.94	2.95	0.31	2.00	3.60	-0.51
FEMALE	B/4/C	35.56	2.34	1.36	3.77	1.68	1.05
MALE	B/5/A		1.78	-0.40	1.19	1.32	-0.59
xxFEMALE	B/5/A		2.26	-0.43	2.54	2.75	-1.49
MALE	B/5/B	63.61	0.28	0.59	3.96	2.81	-0.33
FEMALE	B/5/B	60.56	0.66	0.55	4.74	2.63	-0.49

PICTURE	ITEM	% OF CHILDREN RESPONDING	I. Q.	HANDEDNESS	SEX	GRADE	GRADE SQUARE
MALE	B/6/A	77.22	1.33	0.77	3.65	4.15	-1.60
FEMALE	B/6/A	78.06	1.64	0.52	3.14	2.80	-0.76
MALE	B/6/B	41.94	0.63	-0.40	2.74	4.53	-1.87
FEMALE	B/6/B	42.50	1.22	0.47	2.75	1.93	0.23
MALE	B/7/A		-0.82	-0.32	-0.88	-0.43	-0.29
FEMALE	B/7/A		0.02	-0.46	0.01	-0.89	0.63
MALE	B/7/B		-0.47	0.69	-0.83	-1.55	2.07
FEMALE	B/7/B		0.23	0.96	-0.66	-1.17	0.98
MALE	B/7/C		0.24	1.61	1.98	-1.11	1.21
FEMALE	B/7/C		0.02	0.43	0.90	0.60	0.38
MALE	B/7/D		1.06	-0.37	-0.76	2.21	-0.10
FEMALE	B/7/D		1.44	0.65	-0.32	2.45	0.09
MALE	B/7/E		0.76	0.97	1.31	-1.40	0.91
FEMALE	B/7/E		0.96	0.20	1.95	-0.04	-0.30
MALE	B/8/A	85.56	0.93	0.21	3.88	0.07	1.46
FEMALE	B/8/A		1.58	-0.20	1.54	0.31	0.28
MALE	B/8/B	40.00	2.05	1.28	5.96	3.56	-0.43
FEMALE	B/8/B	58.89	1.00	-0.99	6.02	0.60	2.51
MALE	B/9/A		-1.15	0.34	1.92	2.23	-1.66
xxFEMALE	B/9/A		0.21	1.02	2.87	2.68	-1.59
MALE	B/9/B	58.33	2.49	1.25	4.08	4.00	-1.90
FEMALE	B/9/B	58.89	1.35	0.68	6.64	4.11	-0.90
MALE	B/9/C		1.10	-0.99	1.55	0.48	0.44
FEMALE	B/9/C	16.11	0.29	0.61	3.66	0.98	0.61
MALE	B/9/D	29.44	0.29	1.96	1.37	2.62	-0.31
FEMALE	B/9/D	27.78	1.46	0.63	4.36	3.53	-0.83
MALE	B/9/E		2.85	-0.88	1.70	1.35	1.61
FEMALE	B/9/E		1.22	-0.01	5.05	2.23	1.28
MALE	10/C		1.15	0.89	-1.42	2.39	0.17
FEMALE	10/C		1.69	0.21	1.84	1.06	1.52
MALE	10/D		1.68	0.21	-0.54	1.56	-0.33
FEMALE	10/D		0.89	0.64	2.57	2.09	-0.93
MALE	10/E		2.09	0.07	1.49	0.49	-0.66
FEMALE	10/E	44.72	2.74	0.45	1.38	1.65	-1.50
MALE	11/A	35.00	2.72	0.76	1.51	3.94	-0.44
FEMALE	11/A	35.56	2.17	1.69	4.00	4.39	-1.25
MALE	11/B	71.94	2.90	0.36	5.61	3.71	-1.40
FEMALE	11/B	61.94	4.54	-1.25	3.99	3.03	0.15
MALE	12/A	48.06	2.37	-0.13	-3.26	5.72	-2.93
FEMALE	12/A	53.06	3.53	0.67	-1.60	4.15	-2.21
MALE	12/B		1.73	-0.25	1.07	-0.21	1.73
FEMALE	12/B	28.61	1.37	-0.73	3.29	2.12	-0.92
MALE	12/C		-0.55	0.71	0.47	0.84	-0.47
FEMALE	12/C	56.94	-0.17	-0.60	4.38	1.97	-0.81
MALE	12/D	48.61	0.97	0.93	2.60	3.83	-2.47
FEMALE	12/D	58.89	0.11	-0.81	4.75	2.44	0.69
MALE	12/E	89.44	1.19	2.00	-0.03	3.54	-1.21
FEMALE	12/E	83.61	0.72	1.05	1.48	4.31	-1.76
MALE	13		2.35	0.37	-0.78	1.73	0.37
FEMALE	13		-0.37	0.16	1.22	1.62	0.95

PICTURE	ITEM	% OF CHILDREN RESPONDING	I. Q.	HANDEDNESS	SEX	GRADE	GRADE SQUARE
MALE	14/A	85.00	0.75	0.36	0.30	3.01	-0.19
FEMALE	14/A	82.78	0.90	0.47	3.28	3.43	-0.44
MALE	14/B		-0.90	-0.33	2.56	0.91	1.14
×FEMALE	14/B		-0.93	-1.14	2.88	0.46	1.47
MALE	14/C		1.05	1.03	2.22	1.11	1.23
FEMALE	14/C		0.79	0.61	2.26	2.44	0.28
MALE	14/D		1.53	0.80	1.72	2.21	0.61
×FEMALE	14/D		1.01	-0.37	4.04	2.05	0.89
×MALE	14/E		2.98	-1.02	0.96	1.53	1.24
FEMALE	14/E		1.52	1.04	1.68	1.44	0.57
MALE	14/F		0.86	0.15	0.33	1.61	0.38
FEMALE	14/F		1.17	1.02	-0.63	1.14	1.42
MALE	15/A	42.78	0.36	-0.02	-3.28	1.73	0.89
FEMALE	15/A	72.50	0.74	0.86	3.07	2.11	-1.21
MALE	15/B		-0.31	0.65	-1.69	1.36	2.33
FEMALE	15/B		1.61	-0.78	-2.26	0.52	0.82
MALE	16/A	45.56	0.17	-0.16	3.97	1.79	1.35
FEMALE	16/A	52.50	0.14	-0.62	6.23	3.26	0.04
MALE	16/B	46.94	2.09	-0.74	-0.21	-0.27	2.95
FEMALE	16/B	49.44	1.86	0.02	3.05	1.12	1.55
MALE	16/C	42.22	3.66	-0.50	1.84	2.73	2.29
FEMALE	16/C	42.22	2.76	-1.17	3.02	1.71	2.98
MALE	16/D		1.78	1.39	0.39	0.51	1.17
FEMALE	16/D		0.78	0.19	-0.40	-0.45	2.01
MALE	17/A		2.40	1.98	-0.17	-0.41	2.35
FEMALE	17/A	28.61	1.11	1.91	0.32	-0.81	2.61
MALE	17/B		0.49	1.50	0.69	1.71	0.43
FEMALE	17/B		-1.15	1.48	0.58	1.51	0.54
MALE	18/A/3		0.84	1.11	0.36	1.58	0.39
FEMALE	18/A/3		0.32	-0.00	1.09	1.53	0.16
MALE	18/B	-34.70	0.66	0.74	-0.99	1.04	0.34
FEMALE	18/B	-59.90	-0.18	0.43	-0.09	0.41	0.65

APPENDIX E

Items Showing A Significant T and an R 10% + 90%

Cum. No.	Item	% of Response	I.Q.	Handedness	Sex
1	101	16.67	3.59		
2	107/3	44.44	-2.93		
3	113/1	13.89	-3.49		
4	114	13.89	3.93		
5	115	12.78	4.30		
6	116-1	40.28	4.88		
7	134-11	35.56	2.65		
8	134-31/1	65.56	-3.67		
9	134-33	17.78	3.73		
10	204/3	32.78	2.94		
11	206/3	30.83	-3.20		
12	208-1	36.94	3.42		
13	208-1/D	25.00	3.36		
14	319/5F	32.22	-3.19		
15	331M	18.61	3.17		
16	331/2M	67.78	-2.63		
17	353/2M	24.17	3.27		
18	353/2F	20.56	2.94		
19	367M	41.11	3.11		
20	323/2/BM	50.28		-2.91	
21	331/2F	71.67		-2.60	
22	100/6	31.39			3.05
23	103	31.67			-2.80
24	134-2/1	53.33			
25	134-15/5	22.50			
26	134-17	17.22			3.33
27	203/2	55.28			-2.95
28	212-1	17.22			-2.59
29	300/2/A F	48.61			-3.82
30	300/2/B F	50.56			3.51
31	300/4/C F	13.06			4.03
32	300/5/B F	13.61			2.59
33	301/3F	15.83			-3.03
34	301/4/B F	18.33			2.88
35	302/2F	29.17			-2.95

Cum. No.	Item	% of Response	Sex
36	304/1M	57.50	3.38
37	304/1F	24.44	-3.98
38	304/2M	11.67	-3.60
39	305/2M	44.17	4.33
40	312F	12.78	4.25
41	316/2F	27.78	-3.38
42	321/1F	20.56	-3.21
43	323/4/A M	11.67	-3.57
44	323/4/B F	29.72	3.29
45	325/2M	23.89	-5.15
46	325/2F	26.11	-4.90
47	327/2M	24.17	-2.93
48	335 F	14.72	5.72
49	337 F	15.56	3.69
50	338 F	11.11	-3.59
51	349 M	66.11	2.92
52	349 F	45.83	-3.57
53	352/2M	25.00	-10.24
54	352/2F	38.89	12.99
55	357 F	16.11	5.69
56	361 F	20.83	6.22
57	362 F	20.56	4.35
58	365 F	30.83	3.05
59	368/B M	53.06	4.83
60	B/4/C F	35.56	3.77
61	B/6/B F	42.50	2.75
62	B/8/A M	85.56	3.88
63	B/8/B F	58.89	6.02
64	B/9/C F	16.11	3.66
65	12/B F	28.61	3.29
66	12/C F	56.94	4.38
67	12/D F	58.89	4.75
68	15/A M	42.78	-3.28
69	15/A F	72.50	3.07

Cum. No.	Item	% of Response	Sex	Grade	Grade Sq.
70	16/A M	45.56	3.97		
71	16/B F	49.44	3.05		
72	100/3	36.39		-2.65	
73	143-30/2	27.78		3.57	
74	134-31/2	19.17		2.61	
75	204/4	29.44		-2.89	
76	205/4	29.17		-2.96	
77	206/1	18.06		2.84	
78	209/1	14.17		-3.08	
79	215/3	44.72		-2.89	
80	216/5/A	12.78		-2.84	
81	217-20	25.28		2.81	
82	301/5M	34.44		2.59	
83	306/3M	76.94		4.56	
84	316/4M	30.56		4.14	
85	318/2M	25.56		2.95	
86	318/3M	13.06		2.63	
87	320/1	32.50		-3.80	
88	323/2/A M	20.00		-2.89	
89	323/2/A F	21.67		-2.66	
90	323/2/C M	26.39		3.07	
91	323/3/A F	38.61		-2.82	
92	323/3/C F	49.44		3.55	
93	323/4/D M	69.44		3.62	
94	323/4/D F	55.56		2.72	
95	326/1/A M	19.72		-5.01	
96	326/1/A F	23.61		-3.69	
97	359M	27.78		3.87	
98	B/9/D M	29.44		2.62	
99	12/E M	89.44		3.54	
100	12/E F	83.61		4.31	
101	14/A M	85.00		3.01	
102	217-24	18.61			-3.18

Cum. No.	Item	% of Response	Grade Sq.	IQ+H	I.Q. + S
103	300/2/A M	53.33	-3.15		
104	300/2/B M	46.67	3.15		
105	319/2F	27.50	-3.42		
106	16/B M	46.94	2.95		
107	17/A F	28.61	2.61		< 2.88 4.24
108	308/2F	35.56			
109	311/9/2M	24.72			< -3.27 -2.61
110	319/2M	26.67			< -2.74 2.87

Cum. No.	Item	% of Response	I.Q.+G	I.Q.+G^2	I.Q.+G+G^2
111	104/3	40.28	2.58 3.10		
112	205/2	31.94	3.71 3.11		
113	308/1M	61.11	-3.31 -4.42		
114	318/1M	60.83	-3.27 -4.91		
115	326/1/A M	19.72	-3.07 -5.01		
116	337 M	13.33	3.45 3.34		
117	366 F	50.00	2.89 3.21		
118	B/4/C M	36.94	2.95 3.60		
119	11/A M	35.00	2.72 3.94		
120	12/A F	53.06	3.53 4.15		
121	16/C M	42.22	3.66 2.73		
122	119/2/A	40.28			-2.97 -4.38 2.58
123	119/2/B	59.44			3.12 4.56 -2.70
124	134/3	45.56			-4.67 -4.52 2.58
125	364 M	17.78			3.18 4.29 -3.01
126	366 M	50.83			2.87 3.95 -2.95

Cum. No.	Item	% of Response	H+S	H+G+G^2	S+G
127	301/5F	36.11			< 3.47 2.69
128	302/5M	50.83			< -2.49 -3.44
129	302/5F	46.67			< -4.72 -4.45
130	305/2F	51.11			< 6.33 2.93
131	306/1M	20.28			< -3.30 -4.30
132	306/1F	19.44			< -3.39 -3.03
133	306/3F	77.50			< 3.19 3.53
134	307/3M	38.06			< -4.94 -3.24
135	307/3F	40.28			< -5.40 -2.84
136	307/4M	58.89			< 4.46 4.64
137	307/4F	58.61			< 5.25 3.47
138	316/2M	23.61			< -2.85 -2.65
139	316/4F	36.67			< 3.68 3.14
140	318/1F	44.72			< -4.47 -3.76
141	318/3F	23.06			< 3.47 3.06
142	323/1/A M	44.44			< 5.71 -5.02
143	324/1M	38.33			< -3.97 -3.93
144	324/1F	38.61			< -2.88 -3.63
145	324/4M	52.22			< 3.98 4.16
146	324/4F	51.39			< 4.56 3.98
147	367F	46.94			< 4.17 3.66
148	368/A M	25.00			< -5.57 -2.69

Cum. No.	Item	% of Response	S+G	S+G^2	S+G+G^2
149	368/A F	11.39	-4.61 -3.29		
150	B/5/B M	63.61	3.96 2.81		
151	B/5/B F	60.56	4.74 2.63		
152	B/6/A M	77.22	3.65 4.15		
153	B/6/A F	78.06	3.14 2.80		
154	B/6/B M	41.94	2.74 4.53		
155	B/8/B M	40.00	5.96 3.56		
156	B/9/B M	58.33	4.08 4.00		
157	B/9/B F	58.89	6.64 4.11		
158	B/9/D F	27.78	4.36 3.53		
159	11/A F	35.56	4.00 4.39		
160	12/D M	48.61	2.60 3.83		
161	14/A F	82.78	3.28 3.43		
162	16/A F	52.50	6.23 3.26		
163	217-6	16.39		-2.66 -3.63	
164	12/A M	48.06			-3.26 5.72 -2.93

Cum. No.	Item	% of Response	$G+G^2$	I.Q. $+S+G$	I.Q. $+S+G^2$	I.Q. $+S+G+G^2$
165	134-34	44.44	3.01 -2.70			
166	217-23	27.78	3.46 -3.65			
167	300/5/B M	14.72	3.12 -2.58			
168	312-2 M	18.06	3.21 -3.08			
169	109	41.94		3.27 5.42 3.05		
170	308/1 F	62.22		-2.62 -3.95 -2.74		
171	308/2 M	36.67		3.55 2.58 3.84		
172	323/1/A F	44.44		-2.96 3.42 -4.01		
173	11/B M	71.94		2.90 5.61 3.71		
174	11/B F	61.94		4.54 3.99 3.03		
175	16/C F	42.22			2.76 3.02 2.98	
176	364 F	20.00				2.69 -2.87 4.49 -3.34

APPENDIX F

Percent Response and Significant t value for Items Regarded as Indicative of Adult Psychopathology

Item #	Description	Percent Response *	Significant t Value **
	Homesexual Strivings		
334	Opposite sex drawn first	12.78	
305/3	Excessive detailing of hair	0.28 M 2.22 F	
302/3	Full, sensuous, or shaded lips, on the male.	10.00 M	
300/2/D	Eyelashes drawn on the male.	9.44 M	
307/5	Hips and/or buttocks of male, excessively large and rounded, especially if female is angular.	1.39 M	
307/7	Excessive detailing of or confusion in hip lines.	2.22 M 1.39 F	G- S
307/8	Trunk of male is rounded.	0.83 M	
307/9	Trunk of male has wasp-waist.	3.61 M	
316/6	Excessive detailing of shoes, especially the heels on the male.	4.17 M 0.28 F	
333/1	Indications of transparent clothing.	42.50 M 51.11 F	

* M refers to the t for the drawing of a male, and F to the drawing of a female.

** IQ, H, S, G, and G^2 indicate that the item had a significant t for the variable of IQ, handedness, sex, grade, or grade squared, which was plus or minus.

Item #	Description	Percent Response *	Significant t Value **

Heterosexual Maladjustment

Item #	Description	Percent Response *	Significant t Value **
313/4	Excessive shading of contour of thighs.	1.94 M 0.28 F	
316/1	Nude drawings, especially when sex organs are omitted.	7.22 M 5.00 F	G- S-, G-
312-1	Refusal to complete drawing below waist,	0.28 M 0.28 F	
312-2	or heavy, mechanical demarcation at waist.	18.06 M 14.44 F	G, G^2-
316/9	Figure suggestively underclothed.	0.56 M 0.83 F	
335	Overattention to cosmetics, adornment, and glamour of female.	14.72 F	S
316/7	Overattention to necktie; excessively large and conspicuous or tiny and debilitated.	1.39 M	
316/8	Tie drawn as if flying away from body.	0.56 M	
316/10	Elaborate eyelets, laces, and bows in shoes.	18.89 M 8.06 F	
317-4	Pipe or cigar excessively large,	1.67 M	
317-5	or figure actively smoking,	1.94 M 0.28 F	
317-6	or using a gun.	0.28 M	
302/4	Overemphasis on mouth;	7.78 M 9.72 F	
302/5	especially if lips are elongated,	50.83 M 46.67 F	G- S-, G-

Item #	Description	Percent Response *	Significant t Value **
	Heterosexual Maladjustment		
302/6	or if an irrelevant line is stuck between the lips.	5.00 M 6.94 F	
305/4	Exaggerated sideburns,	8.33 M 0.28 F	
305/5	beards,	2.50 M 0.28 F	
305/6	or hair on jaw line of male,	0.28 M	
305/7	or excessively thick and unruly hair on female.	7.50 F	S-
102	Chimney on house omitted,	18.89	
102/1	or excessively detailed,	13.33	
102/2	or excessively shaded smoke coming from chimney.	26.39	
217	Fruit tree.	8.06	
217-2	Penetration indicated by relationship of tree to ground or branch to tree.	1.67	
217-3	"Phallic" tree:	3.06	IQ-
332/1	Drawing cannot be identified as sex claimed, or refuses to specify sex.	7.78 5,83	G-, G^2 IQ-, S-, G-
	Excessive Hostile Conflict		
302/7	Teeth or protruding tongue shown.	6.94 M 7.50 F	
301/4/B	Emphasis on nostrils, or two dots for a nose.	20.28 M 18.33 F	S
311/9/1	Fingers without hands,	4.17 M 5.28 F	

Item #	Description	Percent Response *	Significant t Value **
	Excessive Hostile Conflict		
311/9/2	especially when drawn as single lines with heavy pressure.	24.72 M 26.94 F	S-
311/7	Speared or talon-like fingers.	15.83 M 20.00 F	
310/2/B	Fingers articulated with hand, but encompassed by outside line (like a mitten), especially when line is heavy.	1.94 M 0.83 F	
315/2/B	Toes indicated on feet.	1.67 M 1.39 F	
312-3	Excessively tightened waistline.	2.22 M 6.67 F	
301/6/B	Nose excessively flared, broad, or hooked.	7.50 M 7.50 F	
329/2/D	Very large figure placed in center of paper.	6.94 M 6.94 F	
336	Clowns, cartoon or silly-looking figures.	3.89 M 5.00 F	
331/1	Any violent, unpleasant, or hostile activity.	1.39 M 0.83 F	IQ
302/8	Heavy slash for a mouth.	1.39 M 1.39 F	
203/5	Keyhole tree.	2.50	
134-2	House in motion.	1.67	
217-4	Tree in motion.	58.06	

Item #	Description	Percent Response *	Significant t Value **
	Turning paper 90 or 180 degrees before beginning to draw:		
134/5	House	5.56	
216/6	Tree	5.83	
329/3	Person	1.11 M	
		0.56 F	
	Suspiciousness		
319/5	Disproportionately large head.	36.11 M	IQ-
		32.22 F	
300/4/A	Excessively large eyes.	16.11 M	
		15.83 F	
300/4/B	Pin-point eyes.	5.83 M	
		7.78 F	
300/4/C	Eyes with a furtive glance.	14.17 M	S
		13.06 F	
304/1	Ear Emphasis:	57.50 M	S
	By omission,	24.44 F	S-
304/3	or excessive size or	9.17 M	S-
	elaboration,	3.06 M	IQ,S-
304/4	or seen through transparency of hair.	3.89 F	
331/2	Figure shows clear impulse	67.78 M	IQ-
	to motion, which is blocked.	71.67 F	H-
	Rear view of		
134-3	House	0.56	
330/3	Person	0.56 F	
107/3	No windows on first floor, but only on second floor.	44.44	IQ-

Item #	Description	Percent Response *	Significant t Value **
	Felt Inadequacy and Insecurity		
300/5/A	Eyes closed,	1.11 M 1.67 F	
300/5/B	or pupils omitted.	14.72 M 13.61 F	G, G^2- S-
310/4	Hands omitted.	15.00 M 15.56 F	
310/5	Excessively shaded or reenforced hands,	4.17 M 5.00 F	
309/4	or arms,	9.17 M 7.78 F	
311/8	or fingers.	4.17 M 2.78 F	
360/1	Mechanical row of buttons down the center.	22.50 M 18.06 F	
316/2	Hat and/or center row of buttons as only clothing.	23.61 M 27.78 F	S-, G- S-
134-4	Excessive general erasure of House.	6.67	
134-5	Excessive general shading of House.	5.56	S-
217-5	Excessive general erasure of Tree.	3.89	
217-6	Excessive general shading of Tree.	16.39	S-, G^2-
	Object is drawn casting a shadow:		
116-2	House	0.00	
208-2	Tree	1.39	
317-7	Person	0.00	

Item #	Description	Percent Response *	Significant t Value **
337	Excessive general erasure of Person.	13.33 M 15.56 F	IQ, G S
338	Excessive general shading of Person.	9.72 M 11.11 F	S-
	Introduction of a theme into drawing:		
134-6	House	5.56	
217-7	Tree	1.39	
317-2	Person	9.72 M 3.89 F	G
	Labeling any aspects of the drawing:		
134-7	House	7.22	
217-8	Tree	1.67	
317-3	Person	6.67 M 5.83 F	
217-9	Drawing a stick figure of a Tree,	0.56	
342	or Person.	1.39 M 1.11 F	G-
206/4	Compulsive drawing of leaves on non-bifurcated branches,or	2.78	
205/6	Compulsive, erratic branch-work,	4.17	
213/1	or rootwork.	0.00	
204/1	No branches on Tree, even by implication.	0.00	

Item #	Description	Percent Response *	Significant t Value **
	Abandons incomplete drawing, with or without erasing or crossing it out:	---	
134-8	House	9.17	
217-10	Tree	8.61	
343	Person	20.28 M 19.72 F	
	Introduces "props" into the drawing:		
116-1	House	40.28	IQ
208-1	Tree, in general	36.94	IQ
208-1/A	Squirrels	3.33	
208-1/B	Birds	5.00	
208-1/C	Birdnest	4.44	
208-1/D	Other	25.00	IQ
208-1/E	Fruit on the ground	0.56	
208-1/F	Fruit on the tree	8.33	
208-1/G	Clouds	2.78	
208-1/H	Sun	5.83	
353/2	Person	24.17 M 20.56 F	IQ IQ
339	Excessive shading of breasts on female.	0.83 F	
313/5	Disproportionately small legs,	3.61 M 8.33 F	
313/6	or heavily shaded legs.	4.44 M 3.33 F	G^2-

Item #	Description	Percent Response *	Significant t Value **
315/5	Disproportionately small feet,	4.17 M 10.28 F	IQ-
315/6	or heavily shaded feet.	12.50 M 13.61 F	
	Apathy, Anergia, or Withdrawal		
129/1	Door of House roof-topped,	0.83	
129/4	or paper-sided.	0.00	
214/2	Branch system of Tree not articulated,	2.78	
214/1	or not attached to trunk.	1.67	
310/6	Hands in pockets or concealed.	4.17 M 5.28 F	S
331/3	Figure seated.	0.28 F	
306/4	Thin and elongated neck,	28.33 M 29.72 F	
306/5	or neck severely separated from body by line, chocker, etc.	14.44 M 14.17 F	
329/2/E	Very small figure, especially if in upper left corner.	3.06 M 1.94 F	
326/1/A	Arms mechanically extended horizontally.	19.17 M 23.61 F	IQ-, G- G-
313/1	Legs omitted (but not paper-chopped).	0.56 F	
315/1	Feet omitted (but not paper-chopped).	7.50 M 6.11 F	G-
344	Head clearly drawn, but body vaguely sketched.	1.39 M 0.83 F	

Item #	Description	Percent Response *	Significant t Value **
	All facial features omitted.		
300/1	Eyes	0.28 F	
301/1	Nose	8.33 M 7.50 F	
302/1	Mouth	2.22 M 1.39 F	
	Ego Disorganization and Disintegration		
127/1	House has double end-walls showing.	7.22	
	Proportion of any major detail to the whole is grossly poor:		
122-1	House	15.00	
212-1	Tree	17.22	S-
323-1	Person	10.00 M 10.00 F	
	Any essential detail missing:		
134-14	House	26.11	
217-16	Tree	0.00	
349	Person	66.11 45.83 F	S S-
	Transparency, especially in more than one drawing:		
134-13	House	14.72	
217-15	Tree	40.56	
333/3	Person	12.22 M 24.72 F	

Item #	Description	Percent Response *	Significant t Value **
	Lines broken:		
134-12	House	1.39	
217-14	Tree	1.39	
348	Person	2.22 M 2.22 F	
	Sporadically uneven lines:		
134-11	House	35.56	IQ
217-13	Tree	48.33	
347	Person	46.39 M 44.17 F	
	Excessively heavy or reenforced outside lines, or exceptionally light internal lines:		
134-10/2	House	1.39	
217-12/2	Tree	3.06	
346/2	Person	1.11 M 0.56 F	
	Generalized faulty perspective:		
133	House	40.28	
217-17	Tree	0.83	
351	Person	12.78 M 10.28 F	
	Bizarre, incongruous, or over-symbolic treatment of any drawing:		
134-9	House	7.22	H-, S-
217-11	Tree	11.11	

Item #	Description	Percent Response *	Significant t Value **
345	Person	3.06 M 2.78 F	
333/2	Internal organs showing.	0.00	
330/4	Confusion of profile and front view of head.	0.28 M 0.28 F	
307/11	Trunk of body indicated as two parallel, unbroken lines from head to feet.	0.00	
317-1	Designation of elbow, knee, or knuckle joints, or nails.	3.33 M 2.78 F	
350	Tight stance, with legs pressed tightly together,	3.06 M 1.39 F	
326/1/C/2	or arms pressed rigidly to body.	5.28 M 3.89 F	